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A COMPARISON: LECTURES VERSUS ROLE-PLAYING IN INSERVICE TRAINING

by Gary L. Adams & Robert Tallon
Boulder River School & Hospital
and Patrick Rimell, University of Kansas

One problem in institutions for the retarded has been the lack of staff-resident interaction. Observations of staff performance (Dillion, 1974; Hermatz, 1973; Warren and Mondy, 1971; Wright, Abbas, and Meredith, 1974) have shown very low rates of staff-resident interaction.

Many institutions have implemented in-service training programs in applied behavior analysis to instruct aides in the importance of environmental factors, especially staff-resident interaction. Reviews of these training programs (Gardner, 1973; Kazdin and Moyer, 1976; Loeber and Weisman, 1975; Mazza and Pumroy, 1975) have described weaknesses in two areas. First, there have been few comparisons between components of an in-service training package. Also, there are few studies that have follow-up data in the cottage setting.

The present study will compare the effects of two instructional formats, lecture versus role-playing, during in-service training on the subsequent staff performance in the cottage setting.

METHOD

The staff members were randomly assigned into one of four one-week training groups. A multiple baseline design was used with the first two classes receiving a lecture on incidental training and members of the last two classes role-playing incidental

training. Pre-test scores on an applied behavior analysis test indicated a similar level of knowledge between the two groups.

Each member, with one exception, had at least two weeks of baseline data taken before entrance into the in-service training class. The staff members were observed twice daily for three minutes per observation at randomly-set times. During the three minute observations the observer recorded the number of cues, corrections and positive reinforcements given by the selected staff member to any resident. The reliability checks of the observers range from 81% to 100% with an average of 92%.

During the in-service training class, each staff member received a training packet (Rimell et.al., 1977). The course of instruction, as outlined in the training packet, emphasized the implementation of structured individual and group programming. The staff in the first two training classes received a short lecture on the importance of using techniques and reinforcement in both the structured and unstructured cottage environment. The staff members in the last two groups were taken individually to practice incidental training in the unstructured cottage environment.

RESULTS

The change in rate of positive consequences given to residents, as shown in Figure 1, demonstrated the superiority of role-playing over a lecture format.

The rate of positive consequences per minute for the lecture groups improved from .13 and .19 to .24 and .31, but there was a decreasing trend line in group 2. The rate of positive consequences in the groups receiving role-playing improved from baseline rates of .16 and .11 to .37 and .46 after training. The trend lines for both groups were accelerating.

MEAN POSITIVE CONSEQUENCES PER MINUTE

LECTURE
GROUPS

II
N=5

III
N=3

ROLE
PLAYING
GROUPS

IV
N=3

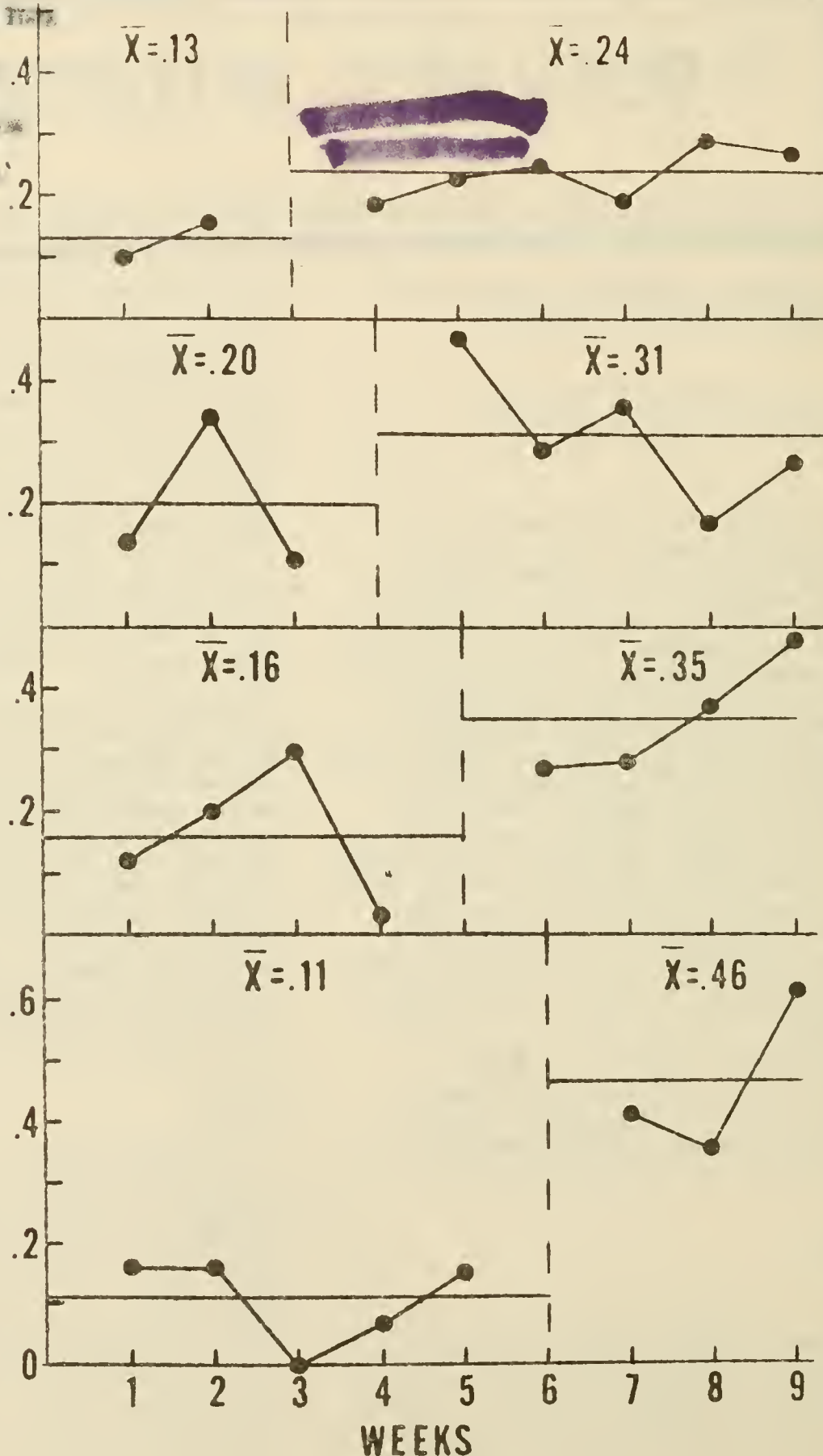


Figure 1: Mean positive consequence rate per week for all four groups.

DISCUSSION

The in-service training program under either instructional format resulted in better training by the staff when they returned to the cottage. The data indicates that role-playing is a better instructional format than just receiving a lecture on incidental training. The trend line for the lecture groups were stable or decreasing whereas the trend line for the role-playing groups were accelerating. The difference was quite dramatic considering the short amount of time spent role-playing. The average number of sessions to each criterion was less than two.

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Timothy Plaska
Rob Tallon
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The Boulder Behaviorist is a periodic publication of the Habilitation Department at Boulder River School and Hospital. We invite interested individuals to submit articles describing the use of applied behavior analysis with developmentally disabled populations but do reserve the right to edit all material.

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NEW DIRECTIONS IN RECREATION

by Linda Poniktera

There has been an increasing awareness of the value of motor development in the total spectrum of services for the handicapped individual. For example, Sloan (1951), Turnquist and Marzolf (1954), and Rabin (1957) have demonstrated that proficiency in motor skills is related to intelligence in retarded persons. Furthermore, successful programs with a high motor content can enhance performance on some measures of intellectual ability (Corder, 1966 and Oliver, 1965). With this in mind, the challenge to professionals in the activity therapies is twofold: To encourage the development of physical skills and to be prepared to maximize the concomitant intellectual gains.

A recent result of this awareness has been the specific provision by law for physical education and related services. The final regulation of P.L. 94-142 (Education for All Handicapped Children Act, 1973) states:

Physical education is the only curricular area identified and included as a part of the definition of special education . . . 1

Physical education is defined in this act to include special physical education, adaptive physical education, movement education, and motor development. Recreation is defined as a related service which focuses on the assessment of leisure function, therapeutic recreation services, recreation programs, and leisure education.²

Therefore, committees responsible for the development of an individual's educational plan must address the individual's needs in these two areas (physical education and recreation), as well as in other skill areas, such as self-help, academic, and language skills.

At Boulder River School and Hospital, the selection of appropriate programs for each individual is the responsibility of the Individual Habilitation Planning Committee, composed of professionals from each service area, and the resulting program plan necessarily includes an assessment of potential leisure activities.

Toward compliance with the cited legislation and in tune with the behavioral emphasis in the education of the severely and profoundly retarded population, the Recreation Department here at BRS&H has developed programs in nine basic areas of motor and leisure-time skills. In line with the overall Boulder Training Model, ongoing data collection, analysis and updating provide the trainers who conduct these programs with the feedback to facilitate success-oriented training sessions.

Our correspondence with other programs of similar concerns indicates that recreational activities utilizing the principles of behavior are an increasingly viable and valuable training vehicle for the mentally handicapped. The choice of appropriate, viable activities to meet the challenge of providing such training requires an assessment tool which is reliable in choosing program directions. The search for such a tool is currently a high priority task of the BRS&H Recreation Department.

1 "Final Regulations for PL 94-142,"
AAHPER Update; November 1977, p. 12.

2 Ibid.

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ARRANGING CONTINGENCIES TO INCREASE THE COMPLETION OF SCHEDULED TRAINING ACTIVITIES

by Dave Whaling & John Moore

One of the problems faced by cottage supervisory personnel is the inconsistent rate of completion of scheduled training sessions for the cottage residents. Such sessions are generally of two types: activity areas (A.A.'s), usually involving about four residents in a semi-structured training situation, and the more highly structured individual training programs, known as 1:1's. The blame for the problem of unrun sessions is often placed on the lack of effective contingencies and feedback which can be applied to the performance of direct care staff. In cottage 15, however, over a year's worth of data on the completion of scheduled training sessions reveals a surprising effect from what many would consider to be a weak incentive for staff performance.

Each direct care staff member in the cottage is scheduled to run one 30-minute activity area and three 1:1 programs during his or her shift every day. This level of training performance is perhaps slightly above the average expectations across all cottages. Faced with a low percentage of completion of scheduled training sessions, the staff in cottage 15 began graphing that percentage for both a.m. and p.m. shifts in the fall of 1976. The computation of the percentage involved dividing the number of sessions which had been completed during a week by the total session scheduled for that week. A scheduled session was omitted from the total if it was not run because the staff member or resident was ill, on an outing or leave, or if the staff member was kept from conducting the session by unexpected direct care duties.

The posting of the graphs in the staff office (Phase I) provided feedback to the staff about their performance, and the percentage of completion showed a gradual, but steady increase over the following weeks. (Unfortunately, no data was kept on the completion of scheduled 1:1 sessions for the a.m. shift during this phase.) Figures 1 and 2 show the results for activity areas and 1:1 programs, respectively.

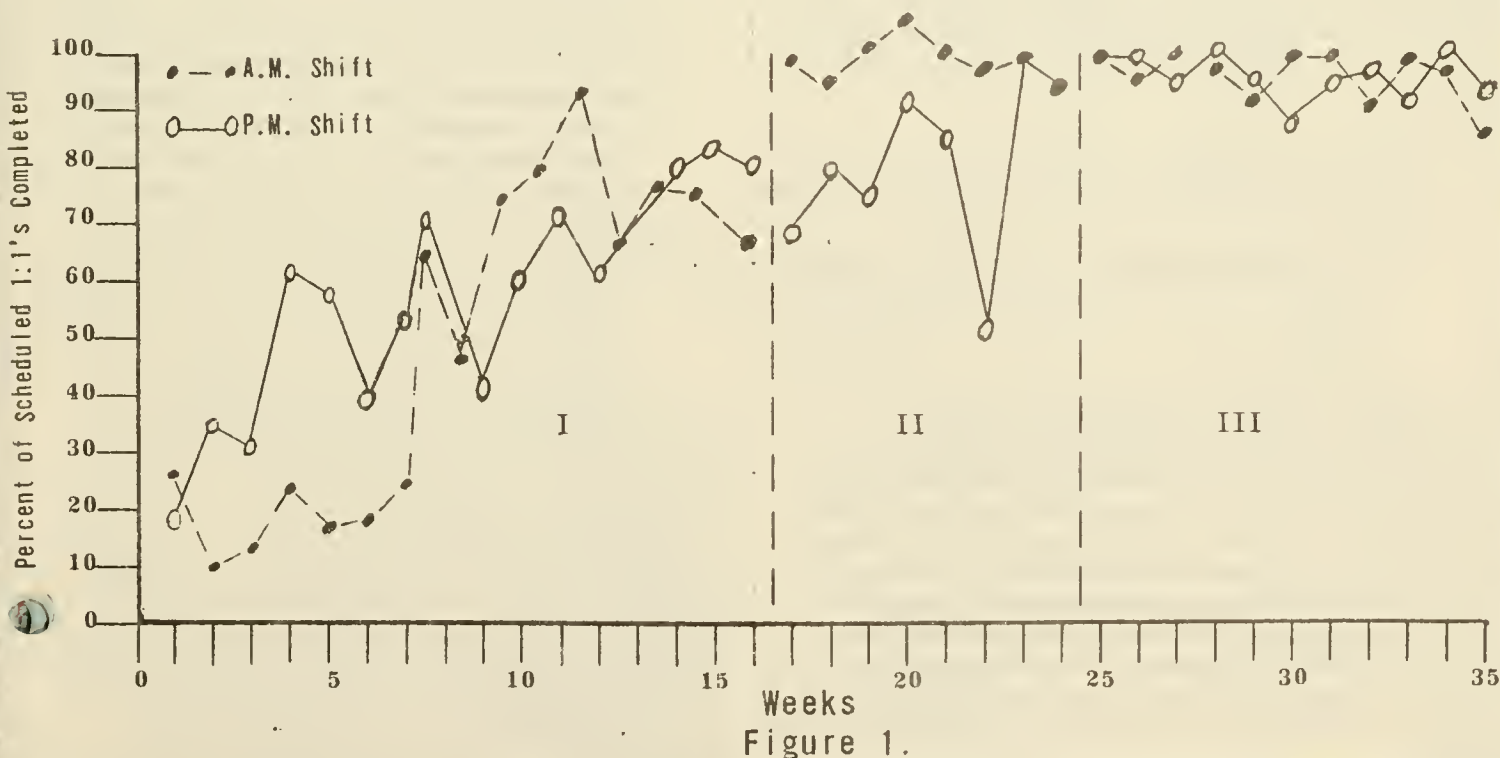
In early 1977, the HA IV on the a.m. shift offered his staff a party at his expense if they completed 100% of the scheduled A.A. and 1:1 sessions for 12 weeks (Phase II). The p.m. shift was not offered this contingency. The result, as the graphs show, was a consistently high percentage of completion on the a.m. shift, while the p.m. shift's performance fluctuated. (By all accounts, the party was a success, too.)

In the spring of 1977, a cross-shift meeting was held, and one topic of discussion was the activity area. A general complaint was that the staff was tired of doing the A.A., and alternatives to conducting the conventional A.A.'s at the activity table were proposed. After some discussion, the following alternate activities were agreed upon: playground activity, swimming, going to the canteen, going on walks, "music room" activities, and going on car rides. Staff members

were given the opportunity to substitute an alternate activity twice a week for the regular A.A. if they had completed 90% of their scheduled 1:1 programs and 80% of their scheduled A.A.'s during the previous week (Phase III).

The 11 weeks of data presented for Phase III show that the alternate activity opportunity maintained the a.m. shift's performance at a high level and brought the p.m. shift's performance up to a similar percentage of completion.

Follow-up data on staff performance is presented here at 3-month intervals in groups of 3 weeks. Figure 3 and 4 reflect the percentage of completion of A.A.'s and 1:1's during these periods, respectively. It can be seen in Figure 3 that the completion of scheduled activity areas is dropping off from the previously high level. A possible explanation for this decrease has been the onset of Montana's winter weather, which prevents the substitution of outside activities as alternatives to the regular A.A. Thus the contingency appears to have lost some of its reinforcing value. The percentage of completed 1:1 programs, however, has remained fairly high, as shown in Figure 4. This type of training is generally considered by staff to be less aversive and more important than activity areas, though, which may explain the consistent completion of 1:1's.



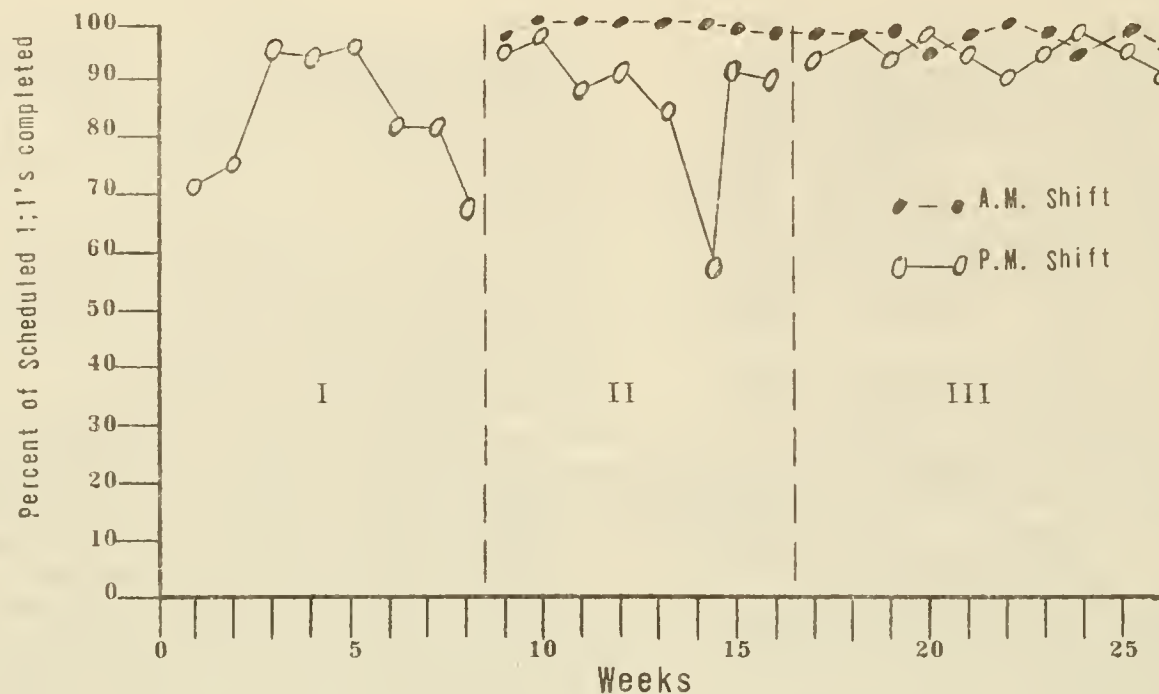


Figure 2.

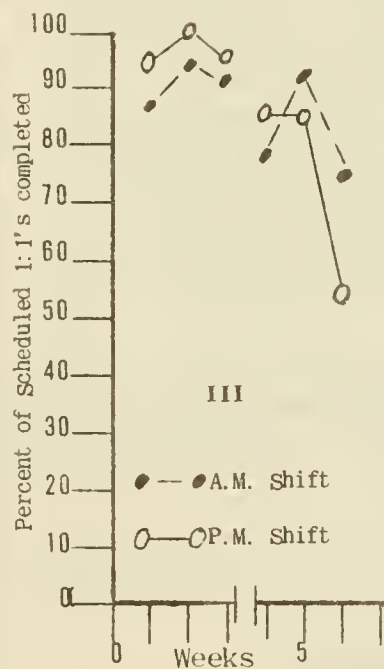


Figure 3.

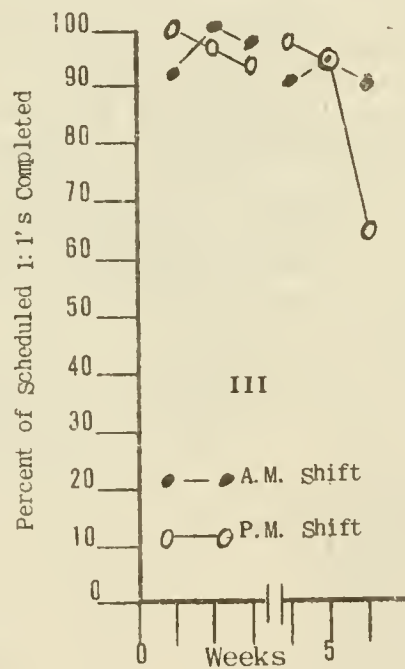


Figure 4.

PROGRESS THROUGH ADVOCACY

Progress Through Advocacy is a program sponsored by Rocky Mountain Development Council in Helena, Montana. The program is a citizen advocacy service for the developmentally disabled residents of Boulder River School and Hospital and Warm Springs State Hospital.

The citizen advocates will be volunteers from the communities in the surrounding area. The project will match volunteers with clients on an individual basis. The volunteer will compare the client's habilitation plan with institution procedures to insure the client is receiving the best possible treatment. Montana law requires that these services be received according to the habilitation plan and in the least restrictive environment. The citizen advocates will work to assure the residents of the institution that their human and legal rights are being protected.

Many developmentally disabled persons cannot articulately represent their own interest as the citizen advocates will represent the interests of these clients and will help the clients receive services when those services are not provided.

The advocates will look at the world through the eyes of the disabled person

Needless to say, many factors which could have greatly confounded the data presented here have gone unidentified and uncontrolled over the past 15 months. The objective has been to find ways to increase the amount of training residents receive and the results are encouraging. They show that simple contingencies, which are well within the control of cottage supervisory staff can be used to affect the amount of scheduled training completed by staff.

and will strive to develop a rapport with professionals and service providers to effect change when change is needed.

Progress Through Advocacy is part of the state-wide developmental disabilities advocacy system. Federal legislation mandates that states create state-wide advocacy networks by October 1, 1977, for developmentally disabled persons. This program is an attempt to develop a grass roots citizen advocacy network which will encourage and promote a more responsive government to meet the needs of the developmentally disabled residents of our institutions.

Rocky Mountain Development Council is seeking volunteers who will commit themselves to the interests of a disabled individual at one of our State Institutions. If you are interested in becoming an advocate or would like more information concerning advocacy, write or call:

Roger Ala, Rocky Mountain Development Council
P. O. Box 721
Helena, MT 59601
(40) 442-1552

POSITION AVAILABLE

Cottage Supervisor - responsible for the management of a residential facility housing 31 severely and profoundly retarded adults. Hires, schedules and evaluates staff; participates in the development of an Individual Habilitation Plan for each resident; monitors the implementation and evaluation of training programs and coordinates the delivery of support area services. Requires a Master's Degree in Psychology or Special Education plus one year of related experience or a Bachelor's Degree and three years of experience. Annual salary - \$14,748.

QUOTES WORTH THINKING ABOUT

"In planning programs, caution should be exercised to avoid the use of brief or ineffectual treatment merely in token satisfaction of an individual's right to treatment. A short therapy session which is presented to others as a 'program' will probably be far less effective than a living unit designed to maintain appropriate behavior, even though the latter is not usually thought of as a program."

"Intrinsic Reinforcement. Intrinsic reinforcement, or natural reinforcement, is undoubtedly the most important in the normalization process. It refers to acts which produce their own rewards (for example, turning a door knob opens a door; flipping the light switch illuminates the room). The more relationships of this type that can be built into an environment, the easier it becomes to shape and maintain appropriate behavior. In the non-institutional environment, intrinsic reinforcement abounds. One does not normally need token reinforcement to encourage persons to swim, ski, or learn to drive a car. Sports, games, hobbies, and most forms of social interaction are maintained by intrinsic reinforcement, as is solving a jigsaw puzzle or climbing a mountain. Intrinsic reinforcement should be the most pervasive and frequent consequence in behavioral programs."

From May, J. G., et. al., Florida Guidelines for the Use of Behavioral Procedures and State Programs for the Retarded Florida Division of Retardation and the Department of Psychology of the Florida State University, 1974.

FEEDBACK: "Whenever you make observations always close the loop by giving feedback. Feedback should be time dependent, not crisis oriented. Notice things going right, not only things going wrong". Todd Risley, at the 9th Banff Conference on Behavior Modification, March 1977.

ARTICLES TO APPEAR IN FORTHCOMING ISSUES

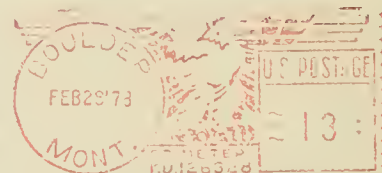
Effects of Using Contingency Management Procedures to Control Obesity in the Prader-Willi Syndrome.

Teaching Peer Interaction and Interdependence to Severely Retarded Adolescents.

Implementing the Activity Area Concept - A Comparison of Procedures.

On an intermittent schedule we also will be including humorous reports of some behavioral interventions we have tried, and an assortment of the negative and unreplicable results we have managed to produce over the years.

BOULDER RIVER SCHOOL AND HOSPITAL
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THE BOULDER BEHAVIORIST

CHILDREN'S
PERIODICALS

Vol. 5, No. 5 Boulder River School and Hospital, Boulder, Montana-October 28, 1977

Cottage 11 Starts a New Role System

by Barbara L. Matlock, Habilitation Aide
IV. Ron Langworthy, Habilitation Coordinator,
and Kent Elliott, Cottage Supervisor

For three months Cottage 11 has been using a new system to schedule staff during times when one on one training is possible. We call it a "role" system, which is similar to Todd Risley's "zone" system, and replaces the "group" system. The group system is used by most other cottages. It requires that a given Habilitation Aide be responsible for the care and training of a specific group of residents for an eight hour shift.

In the "New Directions" article in the previous Boulder Behaviorist a statement of the Board of Visitors was quoted which noted a problem with "disengaged residents and largely disengaged staff." This is a lack of carefully planned activities. Although staff have very specific job descriptions, it is only fair for both management and direct care staff to work under specific scheduling of those outlined duties.

Three months ago Cottage 11 had just completed training in the Boulder Training Center. It was generally agreed that generalization of skills from the Boulder Training Center to the cottage would have much greater probability of success if a more specific management system were established as part of the follow-up by Boulder Training Center staff in Cottage 11. Boulder Training Center staff, mainly Pat Rimell, who was then the Boulder Training Center Supervisor, and Cottage 11 staff, including Habilitation Aide III Lorraine Tuszyński and Cottage Supervisor Kent Elliott, devised the role system.

The daily schedule dictates certain periods

of the day for basic care activities. Basic care includes unstructured training by Habilitation Aides of routine activities such as bathing, meal times and getting up and going to bed. There are also periods of time (three and one half hours each shift) open for more structured training. The role system structures this time to assure that training is occurring.

The four roles of one on one trainer, activity area trainer, incidental trainer and float are assumed by each Habilitation Aide for at least one half hour each shift. Aides change the roles every half hour. The duties of the one on one trainer are to conduct formal programs and to record trial by trial data. The activity area trainer conducts a thirty minute activity session with five assigned residents to teach pre-academic, fine motor and perceptual-motor skills. The incidental trainer is responsible for the health care of residents, conducting informal group programs, promoting language and peer interaction and implementing behavioral intervention programs. The role of the float is to make beds, prepare residents for the bus, transport residents to special services (Physical Therapy, Occupational Therapy, etc.) and/or to supervise residents on the playground.

There are four basic roles because in Cottage 11 four employees per shift is defined "minimum staffing." Minimum staffing is the lowest level of staffing, necessary to maintain the basic needs including training of the residents, before overtimes are hired. For instance, if only three Habilitation Aides show up on a shift, one overtime is hired, or an employee is borrowed from another cottage which is above minimum staffing. If there are five Habilitation Aides on a shift the fifth is scheduled into additional

one on one, float and activity area roles. If there are six on a shift the basic roles are duplicated more frequently and also the sixth employee serves for one half hour in a toilet training role.

An evaluation system for the one on one trainer and activity area trainer is provided through the Boulder Training Model. The performance evaluation tool used for the activity area, with slight modification, is used to measure the quality of interaction in the incidental training role. Spot checks of the Habilitation Aides in their roles are conducted by the Cottage Supervisor, Grounds Supervisor, Habilitation Aide IV, and Habilitation Aide III to assure that each aide is in the appropriate role at the appropriate time and is carrying out duties specific to that role. Feedback is then given to the Cottage Supervisor.

The evaluation of the role system is ongoing and further data is needed to fully determine its effectiveness. The problems of accountability, definition of responsibilities and low staff-resident interaction are now being addressed and the role system seems to be effective in reducing these problems.

New Directions in the Habilitation Department: Part II

By Ron Langworthy, Habilitation Coordinator

Part I of this series explored the background of a recent increase in attention to management in the Habilitation Department.

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Typing.....	Diana Van Haecke

ment. It was pointed out, in short, that the implementation of training programs has been sporadic and that a thorough management system is needed to complement the training system.

This and subsequent articles in this series will focus on steps taken to impact on the deficiencies noted. Barb Matlock and Kent Elliott's article in this issue concerns a trial on a small scale of a different method of scheduling staff during hours when formal training programs can be carried out. If this approach is successful it may be used in other cottages. Subsequent articles in this series will examine a reorganization of the Habilitation Department emphasizing management rather than staff activities; management training; a new data system which will allow closer, more accurate scrutiny of training progress, and possibly a system of flow charts and form letters to help managers deal consistently with exceptionally good or bad employee behavior.

The Cottage Evaluation Checklist has been designed to clearly define the most important expectations of the administration of the Habilitation Department for cottages and to evaluate those expectations monthly. The checklist has five sections, which are Components of the Boulder Training Model, Communications, Cottage Management, Resident Care and Rights, and Other. The first fourteen items which comprise the first section of the checklist are a revised version of "The List of Components of the Boulder Training Model," which was discussed in the Volume 4, No. 7 issue of the Boulder Behaviorist.

That first section lists, for instance, components of group and one on one programs, requirements on performance observations, meal time training, schedule boards, undesirable behavior programs, and so on. Under "Communications" the evaluator checks, for instance, the frequency of staff meetings, availability of various information source books, and proper use and storage of written information. Under "Cottage Management" we check, for instance,

cleanliness of the environment, availability of objects to manipulate, whether exit doors are unlocked, and appropriate decoration. Example items from the Resident Care and Rights section are monthly revision of IHP's, proper dress of residents, access to personal belongings, extent of psychotropic medication, celebration of birthdays on an individual basis, access to toilet paper, missing agency programs and off-grounds trips. Under "Other" we check whether Cottage Supervisors set weekly objectives, whether they use a new employee orientation checklist, and whether employee evaluations are up to date.

This checklist is administered once a month by the Habilitation Coordinator who supervises the Cottage Supervisors. Each item is scored as "Yes" (95-100% - 2 points), "Partial" (70-95% = 1 point) or "No" (less than 70% = 0 points). The items are weighted according to their relative importance. A score is thus computed for each cottage. When the evaluation is done the results are discussed with the Cottage Supervisor and the next month's objectives for that cottage are determined according to which deficiencies are highest priority.

All cottages were evaluated once two months ago with a non-weighted form of the checklist. The next evaluation was foregone in anticipation of the reorganization of the Department. Now that the reorganization is effective these checklists will be done on schedule.

This checklist should improve communication by making it specific and routine. Since it clearly specifies the expectations for each cottage, it will make goal setting for each cottage easier, and will help ensure that the goals of each cottage are congruent with the goals of the Habilitation Department as a whole. The monthly monitoring will provide specific, routine feedback, the lack of which has been a frequent complaint of Cottage Supervisors in the past. Finally it pinpoints problem areas. One cannot hope to improve a situation without specific information on what problems are occurring.

Sample copies of the latest version of the Cottage Evaluation Checklist are available on request.

Two Readers Respond: Round Two

In Volume 5, No. 3 issue of the Boulder Behaviorist we presented an excerpt from Philip J. Hilts' Behavior Mod, published by Harper and Rowe. The last paragraph of the excerpt is a good summary of the main theme of that book:

"No technology is as useful as the one that will empty our prisons and mental institutions, teach us how to revise our children efficiently, allow us to free ourselves of bad habits. The technology of behavior offers this. No technology can amplify the clock workman nightmare more than one that can turn a man into a puppet. The technology of behavior offers this too."

The question for our readers was, can behavior modification technology "turn a man into a puppet?" The first response to that question comes from Micheal Robinson, who is the Community Education Director at the Elahan Center for Mental Health in Vancouver, Washington.

Punch: Judy, have you ever stopped to think that we have absolutely no free will?

Judy: Now that you say so, I was laying back stage just a few minutes ago wondering what I would do if nobody gave me a hand.

Punch: Yeah, it's not much consolation to know that you can only exist at someone else's whim.

Judy: I was thinking what I would do if I could have a life of my own, and know what I realized?

Punch: No what?

Judy: Even if I had a life of my own, I couldn't do exactly what I wanted. There would still be rehearsals, memorizing lines, signing autographs.

Punch: And traveling from town to town, putting up posters, selling tickets.

Judy: I guess you could say we all have certain limits, and it's an illusion that freedom lies in being free of controls.

Punch: Say, this is getting to be quite an intellectual dialogue, especially for someone with a face like a bleached beet.

Judy: Oh, you probably say that to all the girls, you clown.

Punch: Don't blame me, it's the puppet-master who makes me say that.

Judy: Oh, I forgot. That's right, the puppet master plays out the on going struggle, the dialectic that has been the continuous theme of human history since they first learned how to ask what they were here for.

Punch: There you go again, sophomore; have you been living in a trunk full of philosophy books?

Judy: No. As a matter of a fact, I've been hanging around with a lot of props from Hollywood horror films, and the things they talk about!

Punch: Like what?

Judy: Oh, you know. Peapods that open up and eat people. Spaceships that come down and make everyone into robots. Blobs that absorb towns. You get tired of it after a while. All that talk about people not knowing what to do about the crab monsters, or the spider people, or the giant jelly-fish. And do you know what they fear the most?---They're obsessed with being used. They complain constantly about plots, conspiracies, secret brotherhoods who advocate the idea of mass hypnosis---All kinds of frightening things they scare themselves with.

Punch: You mean, it's all a bunch of nonsense and we have nothing to fear?

Judy: I mean that's the biggest red herring I ever heard of.

Punch: Sounds tasty, tell me more, silly.

Judy: Look, if you really respect human intelligence and believe in the future of humanity, you don't get all wiggly and hot about horrible things like thought police.

Punch: Huh?

Judy: That's a straw man, a false dilemma. The issue is, like Lewis Carroll said, "Who shall be master." And all the poets and political rhetoricians and champions of liberty have said has added nothing to that. It's still what being free is all about. If you think that life, yours, mine, or everybody's is reducible to a simple struggle between controllers and controlled, you ignore that there has always been, will always be, a struggle of generations, and that the battle ground is the effort to grasp what is possible and separate it from what we have been told is true. It's silly to fear that free will might be separated from us like a cow from a calf. Think about it, think what we would be if they gave us no lines, just standing out here slugging each other, with no comic relief.

Punch: Sounds like fun, prunepuss!

Judy: Oh, you'll never change. I'm serious. Even if they (the notorious they) got total control, and could shape us all like play dough into what ever they wanted, there would be no end of debate about what to want. Even if the techniques of social control were (and they won't be) the exclusive property of a dictator; the very circumstances that allowed a dictator to come to power, i.e., totalitarian militaristic chauvinistic political systems, would be inconsistent with the idea of social control using the methods of applied psychology. And do you know why?! Hey, dummy, do you?

Punch: Oops, sorry, I was watching a cartoon.

Judy: The reason is: You only make that sort of change by approximation, and the enormity of the task would require that some system other than

a dictatorship be invented to carry it out. In other words, the system would not be the invention or brainchild of one man or group. A dictatorship would have to use totalitarian methods, brute force. Social control requires time, evolution, continuity of leadership that is beyond the life range of a single despot, or even of a dynasty. To coin a phrase, Nirvana won't be built in a day.

Punch: I guess that means we got some time to mess around?

Judy: Right, strudelnose. Now pass me a two by four and roll up your sleeves.

Can Behavior Modification

Turn a Person into a Puppet?

by Allen R. Branum, Ph. D., Associate Professor of Psychology, South Dakota State University, Brookings, South Dakota
Submitted to the Boulder Behaviorist
October 15, 1977

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The title of this article is a leading question usually asked by those who are eager to deprecate the behavior modification movement and the philosophy of behaviorism upon which it is based. The reply of, "Yes, but ...," is usually cut off with a curt, "Case closed," or something to that effect and the behaviorists' full answer is almost never heard. A common conclusion seems to be that behaviorists are blind to the problem of unrestrained power concentrated in a few hands or have become intoxicated with the prospect of exercising such power. In fact, however, no group is more aware than the behaviorists of the dangers as well as the promises of a behavioral technology and the gravest danger lies in not listening, or misunderstanding what it is that the be-

haviorists are saying.

Most informed individuals are aware that a central position of behaviorism is that human events have natural causes and are, in a technical sense, "controlled" by such causes. A misunderstanding arises when the word control in this sense is interpreted as indicating that the person is somehow being "used" or "taken advantage of" or "forced to behave." The problem here is the conventional connotation of the word control. For behaviorists it is a scientific term referring to the relationship between a cause and its effect and not a term that refers to a particular kind of social interaction. The behaviorists' view is that all acts, thoughts, volitions, desires, fears, etc., have causes and these causes can be said to control such phenomena. The most compassionate humanitarian is equally a product of such causes as is the most tyrannical dictator or the most obsequious puppet. Behaviorists have searched for the bases of such extreme variations in behavior and the outlines of the particular causes producing each case are already apparent. We have a good idea as to the basic conditions necessary in order for people to live lives that would be conventionally labeled free, fulfilling, or self-actualizing and those conditions that lead people to become puppets. The answer to the question, "Can behavior modification turn a person into a puppet?", is, "Yes, but it can and should be used to raise human beings to new heights of personal development."

The key to insuring the benevolent use of behavioral technology is countercontrol. Countercontrol is the control that an individual has over those people that control him. We all exercise countercontrol in our daily lives even though we are often not aware of it. Our friends, neighbors, bosses, subordinates, etc., all behave toward us in various ways that affect our own behavior toward them and we in turn do things that affect their behavior toward us. When the relationships are mutually reinforcing in such a way that

both parties benefit equally we apply terms like friendship, sharing, cooperation, etc., to label the situation. Terms like control and manipulation are reserved for those situations in which one person gains more than his partner in some social exchange, especially if aversive techniques of control are used. From the behaviorists' point of view however, there is as much control (in the technical sense) in a friendship as there is in the manipulation of a puppet and the control is not necessarily of an aversive nature. In fact, all pleasant relationships seem to be maintained by the exchange of positive social reinforcers that very effectively sustain the relationships. Friends control each other with praise, respect, admiration, mutual support, etc., in such a way that both of their lives are enhanced. It is this ability of people to control each other that brings about their benevolent moral concern for each other and without this countercontrol, such concern seems to eventually deteriorate. B. F. Skinner has written extensively on this point (as he has on all the points made in this paper) and emphasizes:

"The consequences responsible for benevolent, devoted, compassionate, or public spirited behavior are forms of countercontrol, and when they are lacking, these much-admired features of behavior are lacking.

The point is illustrated by five fields in which control is not offset by countercontrol and which have, therefore, become classical examples of mistreatment. They are the care of the very young, of the aged, of prisoners, of psychotics, and of the retarded. It is often said that those who have these people in charge lack compassion or a sense of ethics, but the conspicuous fact is that they are not subject to strong countercontrol." (Skinner, 1974, P. 191)

Unfortunately this is not commonly recognized. In fact, much effort has been devoted to the denial of the idea that moral percepts

and "freely willed" acts have a basis in causality and many in our society refuse to look into the scientific analyses that have been made of such phenomena. The result is an almost ubiquitous ignorance of the causal relationships involved and a blind faith that an old-fashioned defense of "freedom" in the traditional sense will prevent the abuse of a behavioral technology. The idea that "free" behavior can be understood and controlled by those in the behavior modification movement is often viewed as ludicrous or such a fundamental evil that the movement must be suppressed. Either view leads the people involved to ignore important information. By not looking into the causes of behavior, particularly their own, they remain extremely susceptible to manipulation in the conventional sense. The use of positive reinforcement (the most pervasive influence on behavior) does not breed countercontrol as do aversive measures and the individuals being controlled by it will often report their own behavior as simply free and not be concerned about manipulation. It is this attitude that can lead an individual to become a puppet. But this can be averted. The remedy is to inform the individual.

B. F. Skinner (e.g., 1948, 1953, 1955, 1971, 1974) has devoted much of his career to trying to inform the layperson of the need to be aware of the causes of one's free behavior as well as that of others so that effective countercontrolling techniques can be devised and/or maintained and a better world developed for everyone. As he stated in his 1955 article "Freedom and the Control of Men,"

"The danger of the misuse of power is possibly greater than ever. It is not allayed by disguising the facts. We cannot make wise decisions if we continue to pretend that human behavior is not controlled, or if we refuse to engage in control when valuable results might be forthcoming. Such measures weaken

only ourselves, leaving the strength of science to others. The first step in a defense against tyranny is the fullest possible exposure of controlling techniques. (pp. 56-57)

and

If Western democracy does not lose sight of the aims of humanitarian action, it will welcome the almost fabulous support of its own science of man and will play an important role in building a better world for everyone. But if it cannot put its 'democratic philosophy' into proper historical perspective--if under the control of attitudes and emotions which it generated for other purposes, it now rejects the help of science--then it must be prepared for defeat. For if we continue to insist that science has nothing to offer but a new and more horrible form of tyranny, we may produce just such a result by allowing the strength of science to fall into the hands of despots. (P. 65)"

We must learn to understand ourselves in order to help our ourselves. As we gain insight into the behavioral principles that guide our lives, we should be able to apply them to reach new levels of development and fulfillment. Behavior modification, the application of behavioral principles to practical problems, is perhaps the most exciting and promising challenge facing us today.

My own favorite response to the question, "Can behavior modification turn a person into a puppet?", is to point out that it can be classed along with such questions as, "Can a person drown in a cup of water?" or, "Can a person be killed in an airplane?" An affirmative answer is always necessary but knowledgeable people can readily see that the dangerous agent in each case has other far more likely and wonderful potentials.

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THE BOULDER BEHAVIORIST

STATE DOCUMENTS

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Vol 5, No. 4

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NEW DIRECTIONS IN THE HABILITATION

DEPARTMENT: Part I

The vital Cottage Supervisor position requires a Master's Degree and one year of experience and starts at \$14,803 annually. The following introduction to the specific duties of the Cottage Supervisor is taken from the current job description.

"The Cottage Supervisor as Professional Person possesses the ultimate responsibility for the comfort, care, training and habilitation of the residents in his or her cottage. To pursue this responsibility the Cottage Supervisor must be both a competent manager to achieve a smooth operation and a skilled, knowledgeable trainer to optimize the residents' progress toward maximum independence."

One of the Habilitation Department's guiding assumptions is the notion that Cottage Supervisors should be hired primarily on the basis of their background in applied behavior analysis rather than management. This notion was first utilized early in 1973 with the Cottage 15 project. The Cottage 15 project and later, an extension of that project to three other cottages, proved to be very successful in increasing the amount and quality of training delivered and also in improving the physical environment.

This arrangement seemed to work well. With a knowledgeable behaviorist in a management position we felt reasonably well assured that the training would be of high quality. It also avoided the situation, which provoked the change in the first place, where programmers were merely consultants with no power to arrange the environment or enforce consistency. In addition, it seemed to make sense in view

of the increasing emphasis both locally and across the U.S. toward training and away from strictly custodial care. Moreover, in the interview process, management skills have been difficult to identify, while training skills offer comparatively easy identification. By hiring people with applied behavior analysis skills, we limit the unknowns.

In 1975, the Montana legislature passed a law which made the training expertise of Cottage Supervisors a statutory requirement. The law states that the "professional person" in charge of a group of residents must, for instance, be involved in Habilitation Planning Committee Meetings, coordination of overall habilitation of the residents, periodic analysis of the Habilitation Plan, and monitoring of admission. BRS&H could have continued the old management structure and simply hired a phalanx of "professional people" outside of the supervisory structure of the cottages to handle these habilitation functions. The problems of diffusion of authority, personality conflicts, and responsibility with no authority would have expanded significantly.

In the past six months, however, as we gain more control over data evaluating all cottages and as we increase the expectations of the system, we have been forced to re-evaluate the importance of management skills. With consultants like Todd Risley and Dave Grove telling us that the cottages need a thorough management system, there was never a lack of recognition of the fact. The resources of the Habilitation Department for two years have been focused on developing a thorough training model, forcing a certain amount of ignorance of its equally important complement. With the training system developed, ongoing,

and showing promising results, the idea of accountability suddenly becomes paramount. Given adequate resources and time the two components should, of course, be developed concurrently in a re form oriented facility.

The annual report of the Board of Visitors, a client advocate body created by the Montana Legislature, stated what the Habilitation Department already knew well.

"It appears, therefore, that BRS&H has a staff which is trained or being trained through an excellent inservice and preservice training program, giving them the ability to implement excellent habilitative programs for the residents. Likewise, BRS&H appears to have a competent system of evaluation and specification of habilitative needs for the residents. The problems lie in the fact that implementation of that training and of those habilitative programs is sporadic. In many of the cottages, we find disengaged residents and largely disengaged staff members. The failure to fully implement the habilitative programs does not appear to be caused by a shortage of staff, but [is] the result of a failure to implement a thorough supervisory system."

While this statement ignores the cottages which have consistent training efforts, it is basically accurate.

Even as far down the road as we would like to think we are, cottages still suffer visibly from high turnover, inadequate management practices, low staff morale and lack of communication. The Boulder Training Model (BTM), discussed in past issues of the BB, defines for Cottage Supervisors specifically how residents are to be trained, but it does

not define how a Cottage Supervisor will make sure the BTM is implemented consistently. For instance, the BTM requires that activity areas (semi-structured group programming) will occur in each cottage, listing minimum quantity and specific quality. But the BTM does not even suggest how Cottage Supervisors should make sure direct care staff actually exhibit these behaviors. No one tells Cottage Supervisors specifically what to do if staff routinely find excuses for not running assigned activity areas, or how to track the percent completed. The Central Reporting System provides on weekly printouts the percentage of scheduled sessions actually completed, by trainer, but there are simple ways to circumvent this system by using interruption codes.

To conclude, we can see the need to hire Cottage Supervisors with supervisory experience, train present Cottage Supervisors in supervision and management, and establish a management system across all cottages that complements the BTM. Recent steps taken toward these goals by the Habilitation Department will be the subject of the next article in this series.

POSSIBLE EXCEPTIONS TO THE CONCEPT OF THE LEAST RESTRICTIVE ALTERNATIVE
By Brian Lang, Cottage Supervisor

Recent legal and ethical trends have provided many necessary limitations in behavioral treatment procedures. One limitation has been to require a therapist to use the least restrictive alternative in reducing maladaptive behaviors. In the majority of cases, this is a workable alternative and has no doubt decreased the frequency of resident mistreatment. But, in certain cases, the practice of starting with the least restrictive alternative and progressing to the next alternative as less restrictive alternatives are shown

to be unsuccessful is ethically questionable and may not be in accordance with legal trends.

One such case involves maladaptive behaviors that have the potential for causing physical harm, especially when the behavior occurs relatively infrequently. An example of such a behavior is a resident cutting others with pieces of broken glass over a yearly average of once every three months.

The principle of employing the least restrictive alternative first dictates that one determine if some environmental factor, such as the lack of engagement, may be the cause of the behavior. In such a case it is believed that some manipulation, such as increasing staff-resident interactions may decrease the problem behavior. But this may not always be a realistic alternative when staff-resident ratios may be insufficient to provide the amount of interaction required or financial restraints prohibit the acquisition of necessary materials. Oftentimes, with residents who have been institutionalized in custodial care facilities for long periods of time, staff-resident interactions may not be reinforcing. These interactions may be conditioned to function as reinforcers, but the potential for serious injury meanwhile remains. In any case, the person in charge must determine if the benefits of using the least restrictive alternative outweigh the cost of potential serious injury to other residents. The same problem exists with the use of differential reinforcement for other behaviors, contingent observation and educational fine. Residents could be seriously injured while the learning process ongoing. While the resident has the right to the least restrictive alternative, it seems that others living in close proximity have the right to be in as safe an environment as possible.

The exclusion of such techniques leaves the option of more restrictive alternatives such as overcorrection, exclusion and seclusion timeouts. If these procedures are truly more aversive

than those mentioned previously, then their probability of decreasing the maladaptive behavior should be greater (Azrin and Holz, 1966). Thus, when the possibility of serious injury to other residents exists, the most effective technique available should be considered for immediate use.

The question of a client's right to the most expedient treatment available is one that must still be defined by our legal system. If previous programs have shown less restrictive alternatives to be unsuccessful, must a therapist employ those techniques for every new program, some of them, or none at all? In cases where one serious maladaptive behavior is keeping a resident of an institution from community placement, should one employ techniques that are known to be effective for this particular client or that particular behavior (e.g., overcorrection), thus speeding up his release? Answers to these questions may further complicate the notion of using least restrictive alternatives.

This article is in no way meant to discourage the use of the least restrictive alternative; in fact, every human service organization should strive to do so by developing truly engaging environments and allowing resident to staff ratios of one-to-one for maladaptive behavior programming. Meanwhile, we must deal with the realities of funding for human service institutions.

Each human service organization should devise a list of what types of behaviors can be excluded from the principle of the least restrictive alternative along with plans to change the environment causing the exceptions. This procedure should then be approved by the administration and by client advocacy agencies (e.g., Board of Visitors). In this way, many questions concerning the use of least restrictive alternatives may be answered until exceptions are no longer necessary due to environmental reforms.

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AN ALTERNATE REINFORCEMENT CONTINGENCY
TO USE WITH FOXX & AZRIN'S TOILET
TRAINING PROCEDURE

By Barry Cohen (Habilitation Aide IV)
Debbie Bishop (Habilitation Aide I)

The trend to deinstitutionalize the mentally retarded has often been delayed by lack of toileting skills. In the cottages, one of the most aversive and time consuming duties of the staff are to clean up and change residents who have accidents, and to "special" (to place the resident on the toilet at regular intervals) residents.

Shelli is a resident in Cottage 14. She is 12 years old and is diagnosed as profoundly mentally retarded due to unknown causes. Since August 1976, she has been "specialled". From August 1976-April 1977, Shelli averaged .46 accidents per day.

The Foxx & Azrin toilet training procedure was implemented to alleviate the need for "specialing". The design consisted of three phases: Baseline, implementation of Foxx & Azrin's toileting program (Phase One), and using an alternative reinforcement contingency which was not specified in the Foxx & Azrin program (Phase Two).

Baseline was taken for 6 sessions, each lasting 8 hours per day. During baseline, the resident was not specialled or prompted in any way to eliminate. When accidents occurred, Shelli was changed and no consequences followed.

Phase One was run by Debbie Bishop for 9 sessions, lasting 6 hours per day. The first session and part of the second consisted of the bladder control sequence. Shelli was seated in front of the toilet. She was given liquids and then given the minimal prompt necessary in order to go to the toilet, pull down her pants, and sit on the toilet. A correct response was recorded when Shelli voided. Correct responses were reinforced with praise and edibles. Shelli's dinner was broken down into bite size reinforcers when sessions

were run at meal times. When an accident occurred, Shelli's hand was placed over the soiled area, her pants were changed, she cleaned up the mess, and finally she was put through positive practice overcorrection (She was taken from toilet to toilet and prompted to pull down her pants, sit on the toilet, and flush the toilet, for fifteen minutes). Dry pants inspections were given every five minutes. Shelli's hand was placed in the crotch area and praise and edibles followed when she was found to be dry. The bladder control sequence ended with the first self-initiation (When Shelli got up from her chair, pulled her pants down, voided, and flushed the toilet, without prompting). During the self-initiation sequence, no prompts were given. Praise and edibles were given for self-initiating, and also following dry pants inspections. When Shelli self-initiated, the response was reinforced, and then the chair was placed two feet farther away. Dry pants inspections were at increasingly longer intervals dependent upon the number of self-initiations. When an accident occurred, she was put through one half hour of restitutional overcorrection (Shelli had to clean up the area where she was found wet) and 15 minutes of positive practice overcorrection (previously described above); Shelli's hands were then washed.

During Phase One, Shelli often emitted verbal behavior which normally would seem to be caused by an aversive environment. Indeed, being enclosed in the bathroom, seated in a chair for 6-8 hours a day, would seem aversive. If a situation is found to be aversive to someone, then any behavior which leads to the escape from such a situation will be a reinforcer. Thus, in Phase Two, a negative reinforcement contingency was used.

Phase Two was run by Barry Cohen for 10 sessions, 8 hours per day. When a self-initiation occurred, Shelli was allowed to leave the situation for one half hour. Shelli often went outside and in the playroom. After each rein-

forcement condition, she was returned to the training environment, and the session continued. The negative reinforcement procedure was greatly facilitated by the use of social reinforcement. This proved to be a necessary contingency; as the procedure progressed, the training environment was increased (Shelli moved two feet back for each self-initiation, thus reducing the aversiveness of the environment). Thus, the negative reinforcement contingency was naturally faded out, leaving social reinforcement to maintain the response. Dry pant inspections and overcorrection procedures remained in effect during Phase Two. Criterion for graduation of the procedure was set at 30 self-initiations.

Results: (See Figure One) During

baseline, the mean number of accidents per session were 1.8. During Phase One, the rate was unchanged. The mean number of self-initiations were .33 per session. In Phase Two, the mean number of accidents per session were .8; self-initiations increased to 2.0 per session. The mean number of accidents for the last eight sessions of Phase Two were .37 per session.

This procedure, implemented to increase Shelli's probability of placement, had the added benefit of alleviating a practical problem in the cottage. The negative reinforcement contingency was both a practical and successful addition to the Foxx and Azrin procedure. Shelli is now living in a group home in Great Falls.

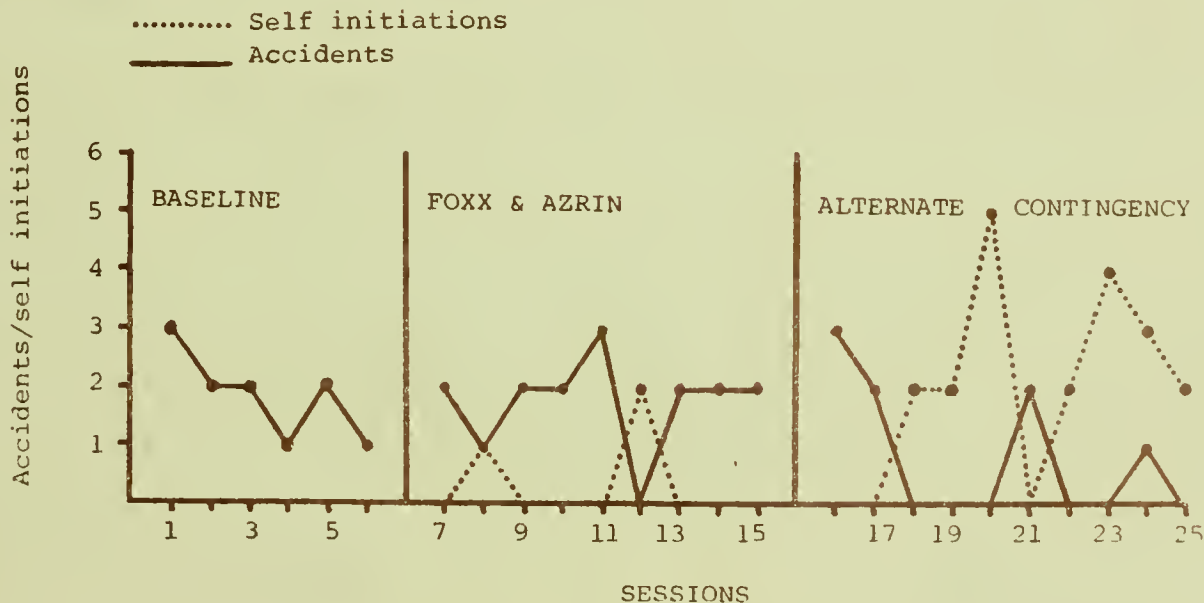


FIGURE 1: Shelli's accidents and self-initiations in toileting.

POSITIONS AVAILABLE

We are seeking applicants with training and demonstrated competencies in applied behavior analysis. Individuals interested in the following positions should contact the Director of the Rehabilitation Department, Boulder River School

and Hospital, Boulder, Montana 59632.

Cottage Supervisor: Annual Salary - \$14,803. Responsible for the development and supervision of the total habilitative effort within a cottage. Cottages currently are assigned an average of twenty-seven severely and

profoundly retarded individuals. Cottage Supervisors directly supervise two Habilitation Aide IV's (see job description below). Each Cottage Supervisor also hires, schedules, and evaluates all direct care staff within the cottage and coordinates the delivery of support area services. Opportunities exist to conduct applied research and to publish in the areas of training procedures for the severely retarded, staff training and motivation, deinstitutionalization and institutional reform. Requires a Master's Degree in Psychology or Special Education plus one year of experience or a Bachelor's Degree and three years of experience.

Habilitation Aide IV: Annual Salary - \$12,381. Conducts individual training

programs with residents. Assists cottage staff with the design and evaluation of cottage living environments. Independently develops training programs to teach appropriate behaviors and to decrease inappropriate behaviors. Teaches cottage staff how to develop and conduct individual and group training programs. Co-ordinates with cottage staff to provide for generalization and maintenance of residents' skills. Assists in the evaluation of the training effort within the cottage. Participates in the continuing education program. Requires a Bachelor's Degree in Psychology, Special Education or related field or any equivalent combination of education and/or experience.

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THE BOULDER BEHAVIORIST

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June 8, 1977

A MODERATELY SUCCESSFUL USE OF FOXX AND AZRIN'S TOILETING PROGRAM

By Larry Noonan, Habilitation Aide IV

In Cottage 14 one of the top priorities with our profoundly retarded adolescent and pre-puberty population is toilet training. By toilet training, we mean to stress the importance of self-initiation of the full range of toileting skills. We do not consider a resident toilet trained if he is "specialied" (taken to the toilet by a staff member routinely at times shown by the data to be advantageous), even though he doesn't have accidents.

Many techniques have been tried in the cottage to improve these skills, but little progress has been noted over an extended period of time. The big problem has almost invariably been the resident's self-initiation.

David is a profoundly retarded 12 year old who has been institutionalized most of his life. He would eliminate consistently on the toilet when escorted (specialied), but he never self-initiated. During a baseline period from 6/1/76 to 8/12/76, David averaged .75 accidents a day even though he was specialied. During the first intervention, consisting of increased trips to the toilet, and reinforcement for dry pants, David averaged .28 accidents per day from 8/13/76 to 12/1/76. The second intervention lasted from 1/8/77 to 4/10/77 and involved increased trips to the toilet, staff training and reinforcement for dry pants. David averaged .14 accidents per day. We thus decreased accidents, but our training was actually going nowhere, because he wasn't learning self-initiation. During these early efforts, he did learn all the prerequisites to independent toileting such as snapping and unsnapping, zipping and unzipping, etc.

On 4/1/77, we began Foxx and Azrin's (1973) toilet training program. This involves three phases: Bladder control, self-initiation and maintenance. The bladder control phase was basically the same as what we had been doing, with an intensification of the time involved and the quality of reinforcement, and a systematic reduction in the prompts necessary to get him to the toilet. The first phase ends when he self-initiates for the first time. This took one day. In phase two, we never prompted him to the toilet. Each time he self-initiated, we reinforced him heavily and moved the staging area further from the toilet. On 4/20/76, after 18 self-initiations, David graduated to the maintenance phase, which no longer required a one to one staff to resident ratio. The maintenance phase required, in the event of accidents, cleaning the area and positive practice in the form of going to the bathroom from various areas in the cottage. All cottage staff shared the responsibility for dry pants inspections, positive practice, cleaning up and keeping data. Now David is still having accidents at the rate of .41 per day, but he is no longer receiving any prompts to go to the toilet. Proper execution of the maintenance phase will gradually decrease accidents to zero.

An important difference between specialing and self-initiation training should be pointed out. Foxx and Azrin's program is difficult if not impossible to run if the resident does not have the prerequisite skills of zipping, snapping, belt buckling, pants up and down, etc. Specialing combined with reinforcement for proper elimination and training in those prerequisite skills prepared David so he could succeed in self-initiation training.

Although the data on accidents is not impressive, David is now providing his own

cues and is thus far more independent. This training greatly increases the probability of his placement into a community setting where independence in toileting is often a prerequisite. In addition, while he is at the institution, staff can spend the time they formerly spent specializing, in training higher level skills.

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Foxx, R.M. and N.H. Azrin. Toilet Training The Retarded. Champaign, Illinois: Research Press, 1973.

BRS&H PRESENTED AT AAMD

William F. Conyard, Superintendent, and Rusty Redfield, Director of Community Services at BRS&H were presenters at the AAMD conference in New Orleans. Their topic, the first of an all day session on Deinstitutionalization - Models for Private and Public Facilities, was presented on May 30, 1977. The title of their presentation was Institutional Reform and Deinstitutionalization: Progress and Problems.

Conyard came to Boulder in July, 1975, at a time when the legislature had recently passed major laws and appropriated increased funding (77%) and employees (33%) over the previous biennium. His job: Transform the institution from a custodial facility to a quality care, treatment, education and training center. His presentation began with the opening of the institution in 1893. By 1917, average cost per resident was around \$800, which increased to the present \$28,000 per resident. He presented slides depicting the changes toward a model institution and the problems plaguing administrators at every turn to get there.

Redfield, who filled the newly created Community Services Director position in

1975, was expected to develop and implement a smooth running deinstitutionalization program. This program depended on the successful identification of community placements by another agency, the Developmental Disabilities Division. Since July, 1975, 116 residents have been placed in the community with only 3 of those returning to the institution.

The other presenters on the agenda were: Roger Weed, James Lyman, Corbett Mothe, and Mike McKeown from Hope Cottage, Anchorage, Alaska, who presented deinstitutionalization from the private sector. Dennis Popp, State Coordinator with the State of Kansas Division of Mental Health and Mental Retardation discussed the subject from a state coordinator's perspective.

QUESTION FOR B.B. READERS: ROUND TWO

In the volume 4, #8 issue of the B.B., we presented questions concerning how over-correction works in an attempt to stimulate reader response. We received two responses; both asked for more information from us.

The question for this issue is posed by Philip J. Hilts, reprinted with permission from his book, Behavior Mod, published by Harper and Row.

"We have become huge by our technology.

Our ears are huge; we can hear words spoken anywhere on earth, and beyond; we can hear voices and sounds from the past. Our eyes are great telescopes and tiny watchers among atoms; we can see the faces of dead men smile; we watch long disappeared feats unfold again and again. Our hands are massive machines; we can kill a man at one hundred yards; we can crush a city at any distance; we can tickle minute microns; we can fashion a hundred tiny circuits instantly.

No other people in history has been so enthralled by the practical. Doing it quickly, neatly, with the smallest effort is our greatest obsession. We have tools for every area of life from brushing teeth to controlling fertility, and these new means have shattered old values. They blast at the roots of our basic patterns of living. Still we make more tools, and faster.

But there is one sacred area, one blind spot, in which we have made no tools more effective than those used by Plato two thousand years ago. We have fumbled, groped, and guessed about what tools might work in this curious eye of the technological hurricane.

The sacred, undeveloped area is human behavior. Psychology in the past one hundred years has wrestled with behavior, searching for rules that might be useful. Some marvelous mythic treatments of man have emerged, like the Freudian three-tiered personality. But these designs have been no help when it comes to changing or controlling behavior. We still discard people like garbage when they act strangely, shutting them away in institutional cans until they die.

But our fascination with the practical, with tools, determined that eventually it would happen. Eventually technology would reach the area of human behavior. It has.

There are now hundreds of men and women around the country using the new technology of behavior. They are manipulating the behavior of people in business, prisons, institutions, homes, schools, and governments. They can untangle a homosexual, dry out an alcoholic, toilet train a youngster in half a day, turn a delinquent into a scholar. They say they have just begun.

With technology, we have created a paradox for ourselves. While we feverishly mother our new tools, and continuously conceive more, we are at the same time sketching the details into the nightmare of the clockwork man.

No technology is as useful as the one that will empty our prisons and mental institu-

tions, teach us how to raise our children efficiently, allow us to free ourselves of bad habits. The technology of behavior offers this. No technology can amplify the clockwork-man nightmare more than one that can turn a man into a puppet. The technology of behavior offers this too."

The question is, can behavior modification technology "Turn a man into a puppet?" If this excerpt piques your interest, write a response to the Editor and we will probably print it.

Editor's Note: The following is a slightly edited version of a paper presented at the Ninth Annual Banff International Conference on Behavior Modification. The original paper is available by request.

The Intensive Training Project: An Institutional Program to Prepare Aggressive and Disruptive Residents for Community Placement.

By Timothy Plaska and Gregory Ragee

The following study describes the development and results of a project utilizing a residential group home model comprised of institutionalized, behaviorally disruptive individuals.

Historically Montana, like many other states, has been actively involved in deinstitutionalization and the development of community based group homes. Generally this effort has been very successful. For example, between July of 1975 and February of 1977, 111 individuals were transferred from Boulder River School and Hospital to a variety of community settings, and as of February, 1977, only three of these individuals have been returned to the institution. In all three cases, though, these individuals were returned because of the disruptive and aggressive behaviors they exhibited in the community.

Based on this data as well as informal observations, it became apparent that regardless of their functioning level, individuals who engaged in extremely disruptive behaviors did not have a high probability of succeeding in community settings. Usually they were not even seriously considered for placement, and so

the probability was also very low that they would ever have the opportunity to leave the institution. Consequently, the decision was made to develop a program at Boulder River School and Hospital to provide intensive skill training to disruptive residents in an attempt to increase the probability of them being considered for transfer to less restrictive community facilities.

Setting

The program, known as the Intensive Training Project, was located in a small house on the grounds of the institution. This house had previously been used as an employee residence, and generally resembled a typical home in the community. The goal of the project was to develop a model group home within the institution and to use it as a training site to prepare disruptive residents for placement into community programs.

Prior to implementation, the following general objectives were specified:

1. Identify the skill deficits of each resident and formulate into an individual habilitative plan.
2. Develop a group home environment to promote and to support appropriate, adaptive behavior.
3. Train all staff to conduct functional skill training programs based on each resident's habilitative plan.
4. Develop procedures to systematically consequence inappropriate and maladaptive behaviors and train all staff to properly implement them.
5. Thoroughly evaluate all aspects of the project using methods which will allow for publication and dissemination of results.

Subjects

The residents chosen to participate in the project were selected on the basis of two criteria: They had chronically engaged in

high rates of extremely disruptive behavior such as aggression, property destruction and noncompliance; and they had previously been involved in other training programs within the institution which had failed.

Initially, four residents were phased into the project on a gradual basis. The first two individuals, Mark and Richard, were transferred into the home in February of 1976. Mark was twenty-one years old and was classified on the Adaptive Behavior Scale as profoundly retarded. He had been institutionalized since he was eight years old, and as documented by incident reports, was the most disruptive resident within the institution. He frequently engaged in severe temper tantrums, physical aggression and property destruction. Richard, the second resident, was nineteen years old and was classified as moderately retarded. He had been institutionalized since the age of three and was selected because of his frequent misuse of property which resulted in large amounts of destruction within the cottage. He was also extremely noncompliant and self-abusive.

Steve, the third resident involved in the project, was transferred into the home three weeks after Mark and Richard. Steve was twenty-five years old and had been classified as severely retarded. He had been institutionalized since he was nine years old and was also extremely destructive, aggressive and noncompliant. Arnold, the fourth resident, was transferred to the home two months later. Arnold was seventeen years old and was classified as moderately retarded. Following his exclusion from community special education programs because of his disruptive behavior, he had been institutionalized for four years and had a long history of engaging in very violent and aggressive temper tantrums.

Staffing Pattern

To provide for the consistency that we thought was necessary to successfully train such disruptive individuals, the home was staffed to provide a minimum of two direct care workers on duty during both morning and evening shifts, and one individual assigned to nightwatch duties

seven days a week. In addition, a Project Supervisor was on duty from 8:00 a.m. to 4:30 p.m. five days a week. Generally the staff consisted of young, highly motivated individuals, who were selected on the basis of their attitude towards learning how to conduct quality skill training programs, their interest in the project and their prior work history.

Staff Training

All staff received training in the basic principles of applied behavior analysis and were required to demonstrate competency in both the conceptual understanding and the actual implementation of the methods. Initially they were trained to interact appropriately with the residents in unstructured group settings. They were required to demonstrate that they could deliver a ratio of 80% positive to 20% negative consequences, to use 90% appropriate cues and consequences and to distribute their attention contingently to all residents present in the environment during fifteen minute observation periods. They were then given feedback on their performance and if it was unsatisfactory were required to practice until they met criteria.

Once these group interaction criteria were met, staff were then trained to conduct individual skill training programs and were required to demonstrate proficiency in delivering cues and consequences and in recording data. They were also trained through modeling and role playing techniques to appropriately conduct programs dealing with maladaptive behaviors and were given immediate feedback on their performance.

Program Development

The programmatic emphasis within the project was to create a highly engaging environment in which adaptive behaviors could be taught and maintained and maladaptive behaviors could be systematically consequence.

As staff were being trained, individual skill training programs were being developed to meet the specific skill deficits of each resident. These deficits

were identified by using the AAMD Adaptive Behavior Scale and several behavioral checklists. This assessment indicated that each resident needed extensive training in self-help and community living skills. These individual deficits were prioritized on the basis of whether they were functional skills for the resident to learn and whether they were necessary in terms of community placement, and individual programs were developed to teach each skill.

Programs designed to deal with maladaptive behaviors were also developed using the following general strategies:

1. Noncompliance was consequence with either immediate manual guidance or a contingent observation procedure depending upon which procedure was most efficient with a particular resident.
2. Nonaggressive and nondestructive tantrum behaviors such as crying or screaming were ignored while staff deliberately reinforced other residents for engaging in more appropriate behaviors.
3. Aggressive and destructive behavior was generally consequence with an overcorrection procedure. If the resident was agitated, a quiet time contingency was also used and he was then prompted through extensive positive practice after he became non-resistant.

Overcorrection techniques, as described in the Guidelines for the Use of Behavioral Procedures in State Programs for Retarded Persons (NARC Research Advisory Committee, 1975) were adopted to consequence most inappropriate behaviors because extinction, differential reinforcement and exclusion time-out had previously proven to be ineffective.

Results

As shown in Figure 1 and Figure 2, the frequencies of aggressive and disruptive incidents have decreased with Steve, Arnold and Mark as compared to the frequencies

of the same behaviors in the cottages where they previously lived. No data was entered for the months of December and January on Figure 2 because Mark had been transferred from the cottage to the hospital ward and frequency data was not systematically collected during this period. Mark had been transferred at the request of the cottage staff who felt that the frequency and intensity of his aggressive and disruptive behavior had increased to the point where they could no longer protect the other residents in the cottage from harm.

Figure 3 shows that the frequency of self-abusive episodes with Richard has also decreased compared to the baseline frequency in the home, but no comparative data is available to indicate the frequency of his self-abusive episodes within the cottage where he previously lived. The frequency in the cottage was high, but data was not systematically recorded by the staff during this period. This figure shows that after three days of baseline ($x=7.6$ incidents per day), during which self-abusive behaviors were ignored, a three minute time-out contingency was implemented. During this phase, Richard was escorted to a quiet area of the house, immediately following each occurrence of self-abusive behavior, and required to remain there until he had been quiet for three consecutive minutes. Even though this procedure reduced the frequency of the behavior compared to the baseline conditions ($x=1.6$ per week) it was discontinued because it was often necessary for staff to physically restrain Richard during the time-out period, and this presented the potential for possible abuse. A twenty minute positive practice contingency was then implemented. Because Richard usually engaged in self-abusive behavior in response to requests from staff, such as, "Richard, please put the toys away", he was required to practice complying with a variety of requests whenever he responded to them with self-abusive behavior. The frequency again decreased during this condition ($x=1.6$ per week) but the frequency began to rise so the positive practice period was increased to thirty minutes and the frequency again decreased to an average of 1.5 per week.

The decreases in aggressive and disruptive behaviors shown on these figures are even more significant when the following facts are considered: 1) much more compliance is expected of residents in the Intensive Training Project, 2) behavioral control medications have concurrently been decreased or eliminated for residents previously receiving them, and 3) due to inaccurate recording procedures in the cottages, the baseline data are conservative estimates of the baseline frequencies. They were actually much higher than shown on the graphs.

The relatively high staff-to-resident ratio has also made it possible to provide much more formalized training in adaptive skills to the residents in the Project. Table 1 shows the increase in the amount of training each resident is currently receiving compared to the amount they were previously receiving in the cottages. This increased training effort has resulted in each resident acquiring a number of new skills. Over a period of twelve months, Richard has graduated from thirteen skill training programs, Steve has graduated from twelve, Arnold eleven and Mark eight.

Table 2 shows the amount of training each resident is currently receiving from support area services such as the Education, Recreation and Speech Departments. While living in the cottages, these residents were prevented from attending such classes, primarily because of the high frequencies of disruptive behavior they engaged in. As the disruptive behaviors have decelerated, they have now been regularly included in training activities conducted by the various support areas.

Table 3 shows the large number of community trips the residents are regularly involved in. Many training activities are purposely conducted in community environments to give the residents an opportunity to learn new behaviors under natural stimulus conditions, and to build in additional reinforcers for appropriate behavior. These activities have included shopping trips, camping outings, picnics, movies, circuses and other recreational and educational experiences which should enable the residents to adjust more readily to community living.

Discussion

The results of this project have demonstrated that a group home setting can be successfully used to teach community living skills to aggressive and disruptive individuals. The results also suggest that the model of using a group home environment within an institutional setting can be an effective alternative to the typical methods of dealing with aggressive and maladaptive behaviors in such facilities.

Although we have not conducted any systematic research to determine the factors responsible for these general changes, there are several components which appear to be critical and should certainly be included in any further replication. These include:

1. An ongoing staff training program and feedback system to teach staff how to appropriately interact with residents and how to use basic behavior management and skill training procedures.
2. Sufficient numbers of staff to consistently implement the skill training and behavior management procedures.
3. An on-site Program Manager available to answer questions and to provide feedback.
4. Individual skill assessments should be conducted with each resident. These assessments should then be used to develop prioritized lists of training programs to teach functional skills that are necessary for an individual to learn and that can be supported and maintained by the environment.

Each of the original objectives of the project have now been completed. None of the residents involved have yet been transferred to community living facilities but two of the original four do commute sixty miles a day to participate in a community day activity center and a work activity program. Their success, as well

as the progress made by each of the other residents involved, has helped generate support in community agencies for the placement of residents from the Project. They will begin the transition to community facilities as soon as an appropriate setting becomes available and staff can be trained to maintain and generalize the behavioral changes which have occurred.

The Project has also expanded within the institution with the development of a second home. This home is generally staffed with one direct care worker on duty for a group of three residents and provides a less structured and less restrictive living environment. When disruptive residents are transferred from the cottages into the Intensive Training Project, we can now transfer them into this second home as the disruptive behaviors decelerate. Thus, we hope to improve preparation of residents for community living by training them in a series of less structured environments within the institution.

The results to this point have been encouraging. In the future, we hope to track the placement of each of the residents involved to determine whether we have really been successful in preparing them to move from institutional to community living facilities. Ultimately, this success will be measured by the number of residents involved in the Project who are actually placed into communities and do not return to the institution. We are also concerned with the problems of maintaining and generalizing the behavioral changes which have occurred and look forward to working with community facilities to address these crucial issues.

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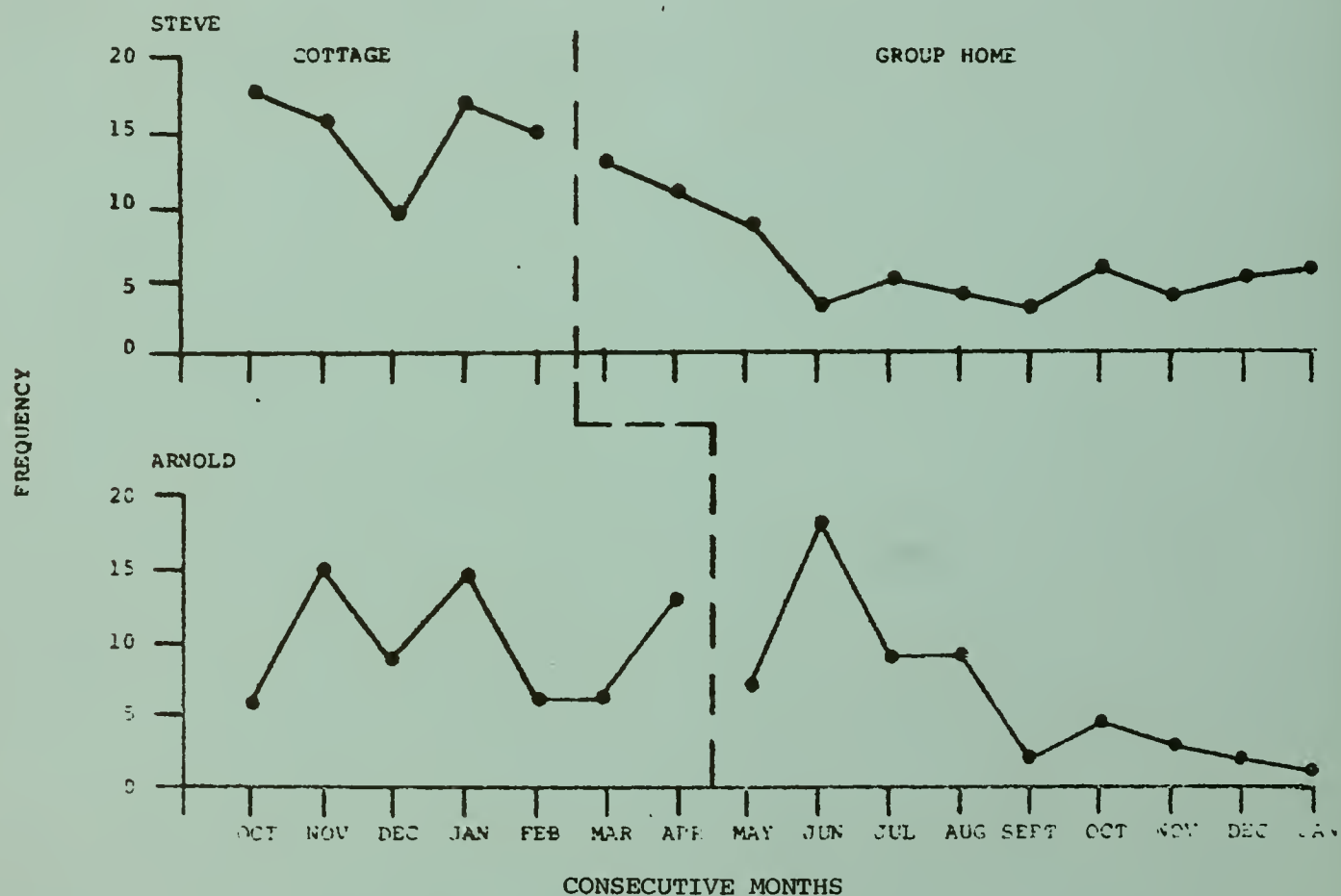


FIGURE 1 - AGGRESSIVE/DISRUPTIVE INCIDENTS - STEVE & ARNOLD

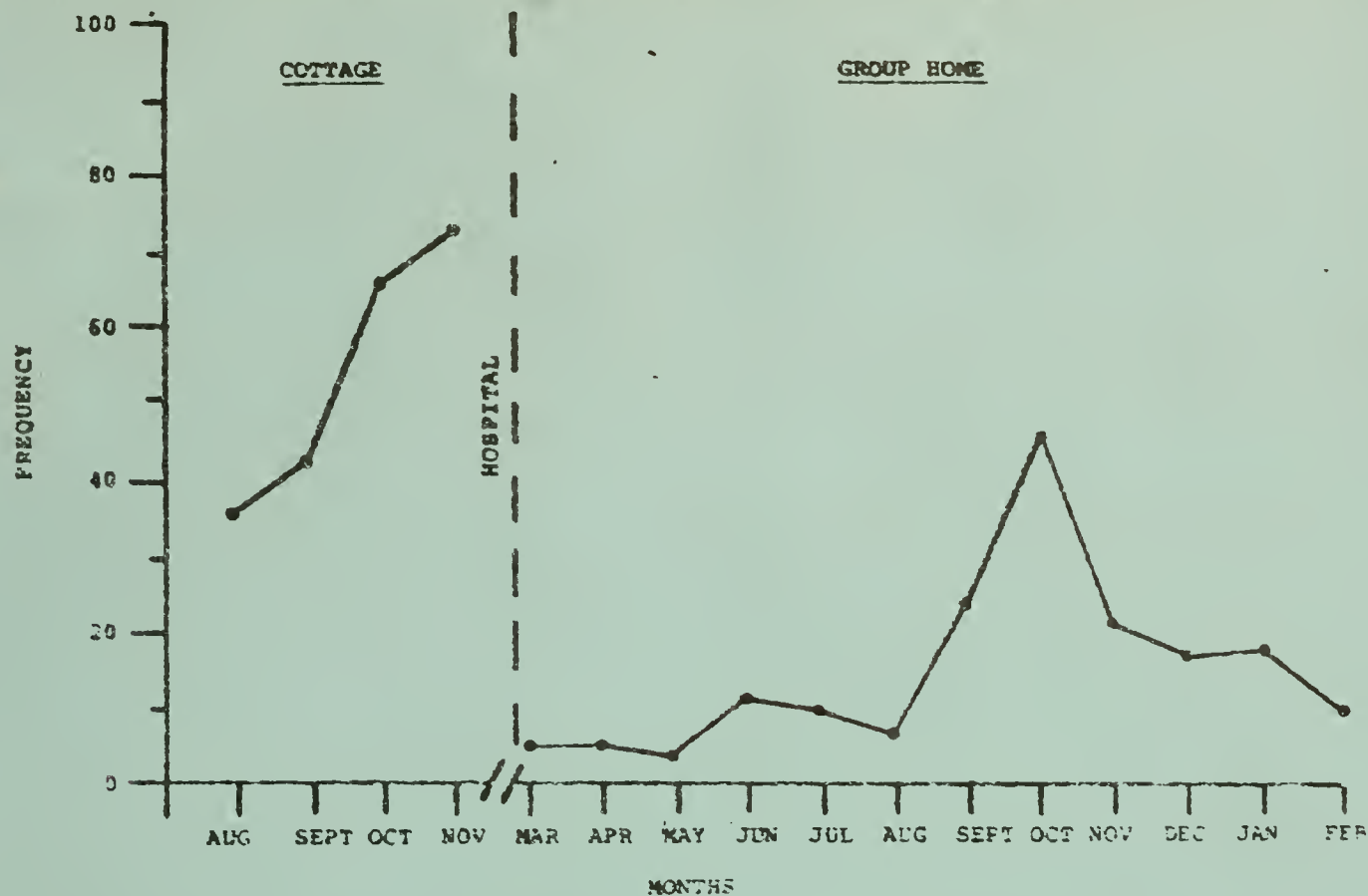


FIGURE 2 - AGGRESSIVE DISRUPTIVE INCIDENTS - MARK



FIGURE 3 - EPISODES OF SELF ABUSIVE BEHAVIOR - RICHARD

TABLE 1 - AMOUNT OF FORMAL TRAINING CONDUCTED

<u>Resident</u>	<u># Programs</u>	<u>Cottages</u>	<u># Programs</u>	<u>Group Home</u>
		<u>Training hrs/day</u>		<u>Training hrs/day</u>
A	2	.25	16	3.8
B	0	0	15	2.1
C	0	0	13	2.3
D	0	0	16	3.8

TABLE 2 - PARTICIPATION IN SUPPORT AREA SERVICES

<u>Resident</u>	<u># Classes</u>	<u>Cottages</u>	<u># Classes</u>	<u>Group Home</u>
		<u>Training hrs/day</u>		<u>Training hrs/day</u>
A	0	0	5	5.75
B	0	0	2	2.00
C	4	3.00	6	6.25
D	5	3.50	5	5.75

TABLE 3 - COMMUNITY TRIPS

<u>Resident</u>	<u>Cottages</u>	<u>Group Home</u>
A	1 trip/month	16 trips/month
B	1 trip/month	16 trips/month
C	5 trips/month	16 trips/month
D	4 trips/month	16 trips/month

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A POST-INTERVENTION FOLLOW-UP FROM 16AB By Mike Stergios, Habilitation Aide IV

The youth and infant non-ambulatory cottage (16AB) was the first to receive training through the Boulder Training Center (BTC). This article will discuss some of the results of that training.

Figure 1 represents the weekly training hours reported through the Central Reporting System prior and subsequent to intervention by the BTC staff.

Two features of this graph are readily apparent. The first is the large amount of week-to-week variability. The second is that although the post-intervention average (482) is significantly higher (10%) than the five weeks just prior to intervention (439), the most dramatic increase in training hours occurred in the period from five to nine weeks prior to intervention.

The main explanation for the large amount of variability is that the number of residents available for programming fluctuates considerably due to illness. When there are fewer residents available to train, training hours decrease. The more notable increase in training hours prior to the intervention is best explained by efforts on the part of the cottage supervisor and the Habilitation Aide IV's during that time to gear up the training effort to an adequate level in anticipation of training by the BTC staff. We wanted to do everything we could prior to BTC intervention so we could benefit as much as possible by that training.

That leads me to the main point of this article. A more relevant evaluation of the effects of the Training Center

intervention would consider quality rather than quantity.

The residents of 16AB are all multi-handicapped children. Nearly all are diagnosed as profoundly retarded. The lack of progress shown over time with these residents using more conventional programs such as turning the head, grasping an object, extending an arm, etc., provides little reinforcement for staff. Many 16AB residents are incapable of completing even such simple tasks as these. For months we tried the more conventional task analyzed cue-response-consequence programs, generally selected from the Teaching Research curriculum. Because of widespread lack of consistent progress, we tried several different approaches.

The lack of resident success kept us vigilant for better techniques. We began work on a curriculum drawn out of our own needs, following the Boulder Training Model as closely as possible.

An example will best illustrate our progress. Jim is a blind, 11-year old boy with hypotonic spasticity (loose muscle tone). He is subject to seizures and frequent constipation. He performed poorly on the grasping program, which was probably too high level for him, though it was among the lowest in the curriculum sequence we had available. A meeting with Occupational Therapy staff set his immediate needs at improving muscle tone and establishing a greater degree of head control. Head control is a prerequisite to establishing attending behaviors and increasing their span. Another goal agreed upon was to decrease his tactile defensiveness, to make social reinforcement a more feasible tool in further training.

The program we designed for Jim has four sequences or tasks which the trainer runs as many times as possible during a 20- or 30-minute session. Each task requires the trainer to give passive exercise to Jimmy's neck and shoulders, and corresponds to a written goal. For instance, for the goal "decrease head lag", the task is "with Jimmy in supine position on the mat, raise his shoulders from the mat by gently pulling his arms upward until his head is off the mat." Since the emphasis is on passive exercise, this is not the usual cue-response-consequence program, but it seems to be a prerequisite. The main problem is lack of an effective method of measuring progress. Trying to measure the degree of "tightness" in Jim's muscle tone is difficult at best. It has been suggested that we record data on a response that would be indirectly facilitated by these tasks. A recent meeting with Dave Grove from Teaching Research gives us hope that an accountable evaluation procedure can be established.

Efforts like the preceding, to gear our programming to the specific needs of individuals, often in the absence of suitable task analyses, have been given a much greater likelihood of success by the staff training received through the BTC. Beyond this, the most reliable method of evaluating quality in 16AB is to observe (using an observation form) the staff running programs and to discuss the needs of their residents with them. The feedback received by myself; the cottage supervisor, Vivian Skogen; and the other Habilitation Aide IV, Priscilla Guenther, shows our trainers to be very aware of the specific problems of their clients and very concerned with providing them with worthwhile service. Inasmuch as the Boulder Training Model remains a flexible system capable of assimilating new methods to deal with unique conditions, it will continue to be a dynamic tool in 16AB.

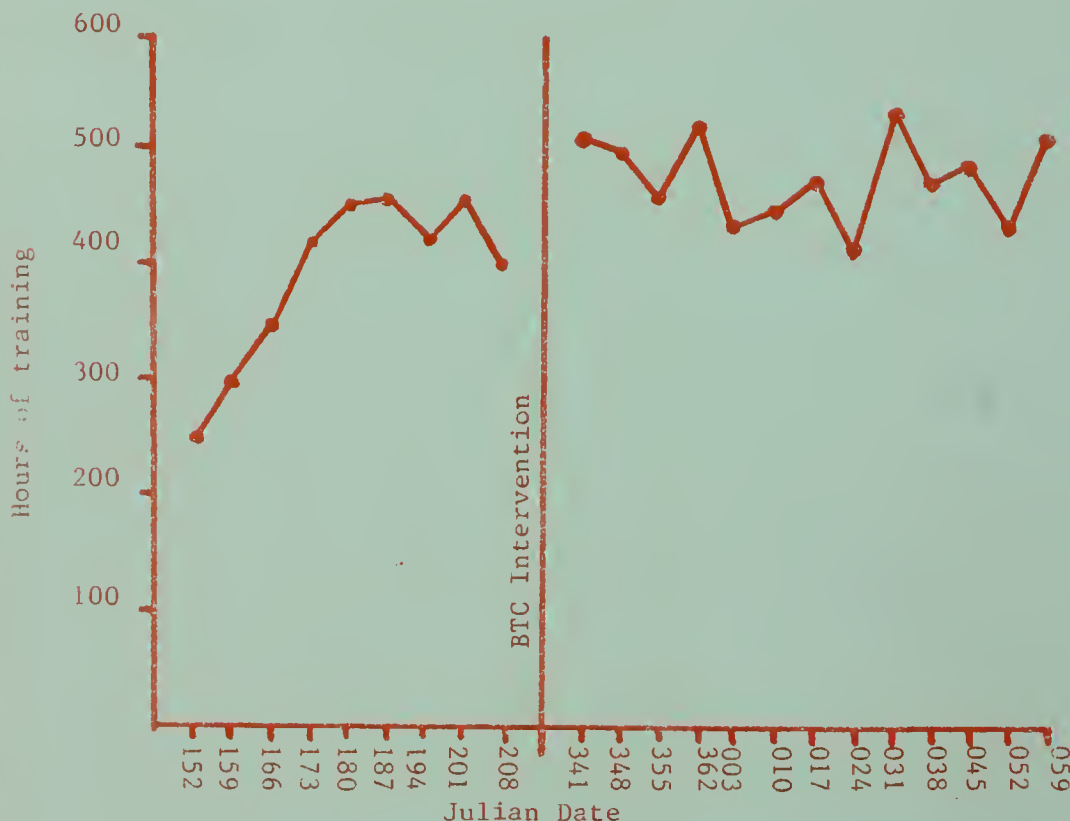


Figure 1. Hours of training by Julian date prior and subsequent to BTC Intervention.

BRS&H STAFF TO PRESENT AT MABA AND BANFF

Staff members from Boulder have been accepted to present papers at the May 14-17 Midwestern Association of Behavior Analysis Convention in Chicago. Brian Lang, supervisor of Cottage 12, will present "Isolation as a back-up for time-out: A functional analysis." Rob Tallon, supervisor of Cottage 10, will present "Frequency of reinforcement as a determinant of time-out effectiveness." Ron Langworthy, Training Liaison; Tim Plaska, Director of the Habilitation Department; Pat Rimell, supervisor of the Training Center; and Dick Van Haecke, supervisor of Staff Development, will present a symposium entitled "Staff Training: A vehicle for institutional reform."

The first paper in the symposium, to be presented by Van Haecke, is entitled "Establishing the model at Boulder: History and underlying assumptions." The second paper, presented by Plaska, is entitled "The components and implementation of a systematic staff training model." The third paper, presented by Rimell, is entitled "The Boulder Training Center: A classroom approach to staff training." The last paper will be presented by Langworthy,

chairman of the symposium, and is entitled "Evaluation on three levels of the success of the staff training project." Dave Grove, Ph.D., Research Associate at Teaching Research, will be the discussant.

Plaska will also present a poster session at the Ninth Annual Banff International Conference on Behavior Modification held in Banff, Alberta, March 20-24. The session will be entitled "The Intensive Training Project: An institutional program to prepare aggressive and disruptive residents for community placement." Greg Ragee, supervisor of the Intensive Training Project at Boulder, is the second author of this paper.

Tom Seekins, Supervisor of Title I, will be the major author and organizer of the three and one-half hour "Introductory Workshop to Behavior Modification and Developmental Disabilities" at the Banff conference. Other authors and participants in the workshop will be Mike Muszkiewicz, Richard Swenson, Jan Mackay and Dudley Blake. This presentation originated from a contract between Banff and the Society for the Advancement of Behavior Therapy (SABT), a Montana based non-profit corporation.

THREE SUCCESSFUL BEHAVIOR INTERVENTION PROGRAMS FROM COTTAGE THREEWeight Loss In A Resident With Prader-Willi Diagnosis

By Pat Friman (formerly an Habilitation Aide IV in C-3)

Ray came to Cottage 3 in March of 1976. We were warned repeatedly of the stubborn problems his condition and diagnosis would present. Ray is diagnosed as having the Prader Willi Syndrome and at that time weighed 328 pounds.

Prader Willi is a rare, mysterious affliction which causes those stricken to be plagued by monstrous hunger. Prader Willi children seemingly spend all their waking hours attempting to satisfy their Brob-

dingnagian appetite.

When Ray arrived, the staff in C-3 was determined to trim some weight off him. We consulted several sources for information regarding the possibility of programmatic intervention. Most of what we found was similar to the following from Today's Health (January 1, 1976).

"It is not a matter of self control, or self discipline, or even using a system of rewards or punishments to modify their habits. No reward will keep one of these children from eating, because there is in fact, nothing in the world that he likes better than eating. Add to this the ironic

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circumstances that even on a normal diet a person with Prader Willi Syndrome will gain weight."

Comparing what we knew about Ray with the information we obtained concerning Prader Willi, we found that Ray was a classic case. He was obsessed with food. When he did not have it, he stole it from others, from the storeroom, or wherever he could get it. He would even eat garbage from trashbins. The medical staff placed him on a strict 800 calorie a day diet but we figured his daily caloric intake was upwards of 2000 calories a day. His 800 calorie diet was supplied by Food Service and the 1200 other calories were contraband.

In spite of the pessimism we encountered, we designed a program outlining a response cost procedure consequating the consumption or possession of food not included in his diet. (A response cost is simply a procedure in which a target behavior--response--is followed by specified negative consequences--cost). When Ray stole or ate contraband food, we required him to walk up and down the ramp in C-3 forty times. If he went a whole day without exhibiting the target behavior, we gave him a carton of yogurt (the Medical Department wrote 200

extra calories into his diet for us). Also we wrote contingency contracts specifying certain privileges which could be earned (a specified amount of weight loss (a contingency contract is an "if, then" contract "if you do this, then you get this.") Ray weighs in every Thursday. On 3-17-77 he weighed 276 pounds, a loss of 52 pounds since the program started in April, 1976 (see figure 2). It is a remarkable achievement, considering the fact that every source we contacted concerning Prader Willi said flat out that it could not be done. If Ray's trend continues, he will not make a very good Santa Claus next year.

A short anecdote will illustrate the effectiveness of our contracting system. Since April 19, 1976, every day of Ray's life has been covered by a contingency contract, except one weekend in May. On this fateful weekend, Ray took a trip he earned by successfully losing ten pounds, as set down in his contract. We neglected to rewrite the contract to cover the weekend away from the cottage and he came back twelve pounds heavier. He lost the new weight two weeks later and it taught us a powerful lesson the process. "If the contract system works, use it consistently!"

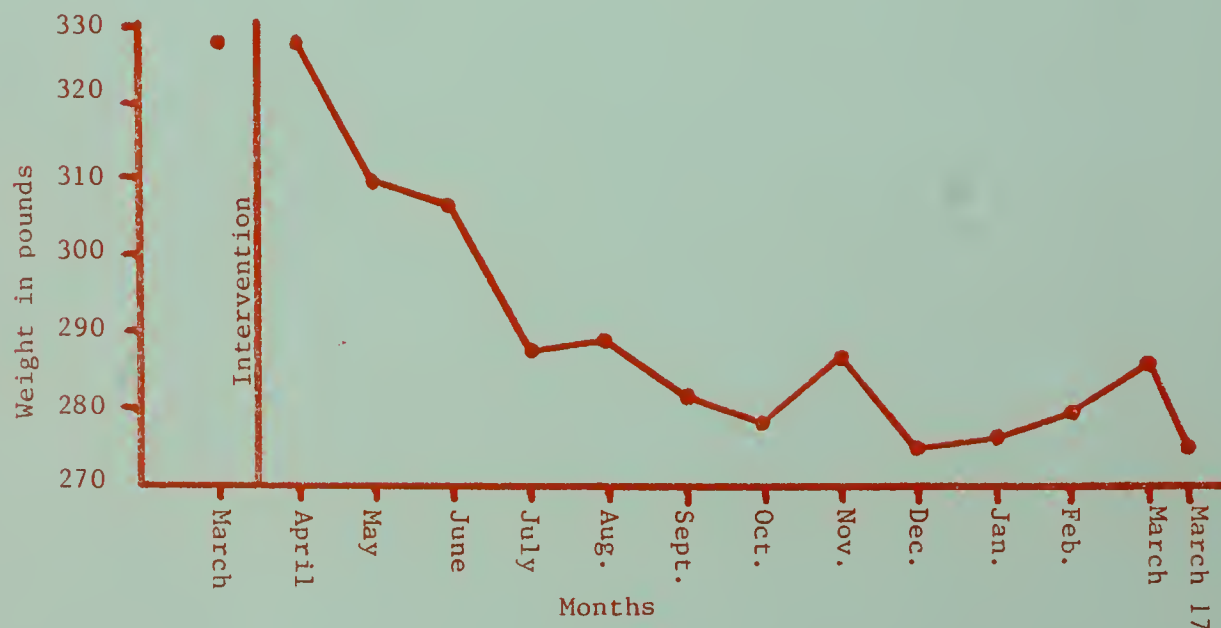


Figure 2. Ray's weight in pounds by month with an update on March 17.

The Use of Overcorrection to Reduce Ingestion of Inedible Objects

by Pat Friman

During Gary's stay at Boulder River School and Hospital, he has eaten thousands of things which are supposedly inedible: faucet handles, toy boats, nails, hundreds of rocks, myriad pieces of string and cloth, zippers, plastic, etc. Several attempts have been made to deal with this scavaging behavior using various techniques such as punishment, restraints, and oral hygiene training. On November 26, the staff of Cottage 3 decided to try their hand at decelerating this most unusual behavior.

After reading the article on scavaging by Foxx and Martin (1974), we elected to use a modified version of their procedure.

We check Gary approximately every 15 minutes. Immediately before the check the trainer in charge sets off a buzzer which serves as a discriminative stimulus. If the trainer finds Gary's mouth to be free of inedibles he is given a tasty edible.

If he discovers a forbidden object in Gary's mouth, he verbally reprimands him, then takes him to the bathroom and requires him to perform 10 minutes of restitution in the form of handwashing. When the handwashing is finished, Gary is returned to the area where he was discovered to have the object in his mouth and is required to perform 30 minutes of positive practice in the form of picking up trash and putting it in the waste basket instead of his mouth.

That's the program in a nutshell and it is definitely working well. In the first days that it has been run, we've seen a substantial decrease from baseline (See Figure 3).

There are a number of reasons why it has been successful. First, over correction when used correctly has been proven as an effective technique to decrease a wide range of behaviors: toilet training (Azrin & Foxx 1971), self stimulation (Foxx & Azrin 1973), self abuse (Azrin, Gottlieb, Hughart, Mesolowski & Rahn 1975), Coprophagy & Pica (Foxx & Martin 1974). Second, the staff of Cottage 3 is very concerned about Gary and they were eager to work

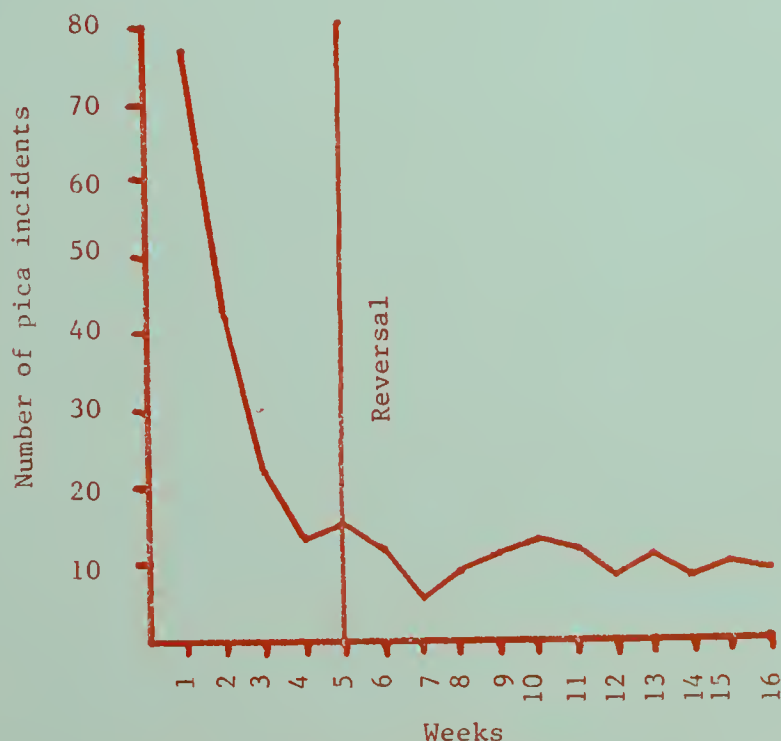


Figure 3. The number of Gary's pica incidents each week.

together to help him. Third, the timers were used to insure uniformity of intervals and schedules were set up and rigidly adhered to. Fourth, cross shift communication was increased due to extra effort, so we had a consistent approach.

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Treatment of Nose-Stuffing

by Ray Flaherty, Habilitation Aide IV

For many years Bill has stuffed his nose with small objects. Generally these objects were paper products: napkins, toilet paper, note paper. Occasionally we would find other objects such as band-aids, food items, and rubber bands. Because the objects in Bill's nose would tend to rot, Bill had an extremely foul odor about his person. On several occasions, the staff had tried manipulating his environment by placing him in the hospital where Bill's access to foreign matter was severely restricted. These periods would last up to 1 month. This technique was found to be highly successful. The pungent odor which surrounded Bill subsided. The hospital staff was again willing to spend time within the proximity of Bill. However, this method had major flaws. After Bill would return to the cottage where he had access to paper products, etc., he would again resume his behavior. A putrid odor would again envelop Bill and the staff would again withdraw attention from Bill.

Bill returned from the hospital 12/1/76. When he arrived, we had a program designed to deal with his behavior. First, we had special mittens for Bill to wear. They had no finger or thumb holes and were designed

to prevent Bill from putting anything in his nose. This was basically an extension of what was being done at this hospital. In the hospital Bill's behavior was controlled by restricting the availability of matter suitable for his purpose. In the cottage Bill's behavior was controlled by restricting his ability to stuff his nose.

Second, we removed Bill's gloves according to a designed schedule. The first period was for 15 minutes, twice a day. During that time, Bill was heavily reinforced, at intervals not more than five minutes apart, for having a clean nose. This lasted 3 days. The amount of time Bill had his mittens off was then raised, in increments of 15 minutes, up to 1 hour twice a day. The time was then raised in increments of 1/2 hour until Bill was without mittens for 5 hours, twice a day (10 hours per day). Bill was reinforced for having a clean nose every 5 minutes while his mittens were off.

Our LPN's were of extra special help during this period. Both Stephanie Mehus on the AM shift and Rhonda Shell on the PM shift were always ready to help assist in checking his nose. They were responsible for cleaning Bill's nose any time necessary. Although that was (and is) a raunchy task, they were always willing to do the job.

During the first 35 days of Bill's program, Bill was only caught sticking objects in his nose twice and the doctor found objects in his nose 4 times. His behavioral intervention program was run in both instances. Bill's program is an overcorrection procedure which consists of 20 minutes of face cleaning and 20 minutes of picking up trash and depositing it in a proper receptacle for waste. While the first part of Bill's program is run the trainer stresses the importance of nasal hygiene. During the second part of his program the trainer stresses the importance of putting trash in a proper receptacle and not putting it in his nose.

On the 36th day of his program, at which point Bill was without mittens for a total 10 hrs. a day, a reversal procedure was done. All reinforcement was withdrawn while Bill's nose was still checked at 5 minute intervals. We assumed this would result in a reversal of our success. Accordingly, Bill's rate of incidents would rise sharply. Instead we were surprised to see no such trend.

Because the reversal procedure did not yield the expected results we concluded other factors were not being accounted for. First, even though we had tried to withdraw the primary and social reinforcement associated with checking his nose, we were eliminating the primary but only part of the social. Bill is still receiving social reinforcement in the nose checking: coming near to Bill and touching his face and head. Second, Bill was getting reinforcement

throughout the day from the staff and other residents. Formerly, when Bill would enter a room, everyone who could be elsewhere, left with all possible dispatch. But with the absence of Bill's overpowering odor, both staff and residents interacted with Bill a great deal. Consequently we believe these extraneous factors accounted for the maintenance of Bill's nasal hygiene.

The quick, effective success of the program has been most encouraging. We now intend to concentrate on a total discontinuation of Bill's behavior intervention program. It is important to note that if we expect to be able to maintain control of this behavior we must channel Bill's time into positive modes of behavior. We have added one individual program and participation in an activity area and plan to soon add more programs.

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For further information, write Behavior Improvement Associates, Inc., P.O. Box 296, New Paltz, NY 12561, or call (914) 225-8827.

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THE BOULDER BEHAVIORIST

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PROGRESS NOTES ON THE BOULDER TRAINING CENTER

By Pat Rimell, Supervisor of the Training Center

With the completion of training in Non-Amb in mid-January the Boulder Training Center marked the end of 14 weeks of training. During this time 93 staff were trained and approximately 145 hours of one-to-one programs and 800 resident hours of activity area time were accumulated. Training in 16AB & C proved to be productive and enjoyable for the Training Center.

One of the more salient benefits of the training thus far has been in the form of feedback received from trainees. Constructive criticism and suggestions have led to several changes in procedures, programs, lecture content and delivery used by the B.T.C. (There are exceptions. Meager attempts at puns and other humor by the B.T.C. staff have continued despite popular sentiments and a surprisingly lean schedule of reinforcement.)

This valuable experience in Non-Amb notwithstanding, all were happy to resume training operations in Building #9 after several months on the road. Following a single harried week of preparation, training of Cottage 13 began on January 24. Next in line are Cottages 10, 11 and 14. The present demonstration classroom is composed of 8 students, two from each of the above-named cottages. This group has a wide range of skills and maladaptive behaviors and lots of potential.

The current Training Center team has been together since early August, 1976, and consists of, in order of seniority: Maura McDowell, Ada Hanson, John Zeeck and Pat Rimell. In addition to training Habilitation staff in use of the Boulder Training

Model, the B.T.C. staff assists in implementing the B.T.M. in each cottage after training has been completed with that cottage. Other projects include training packet revision, weekly inservice sessions, and the development of rudimentary programmed instruction materials.

FOLLOW-UP ON LORA'S CLOTHES-SHREDDING INTERVENTION

By John Moore, Habilitation Aide IV in Cottage 13

In the last issue of the Boulder Behaviorist, I reported on the effectiveness of a variation of a time-out procedure in reducing the frequency of clothes-tearing behaviors by a C-13 resident, Lora. The procedure, developed by George Kessner, HA I, resulted in a mean decrease from seven sets of clothing destroyed per day to .3 pieces of clothing torn. The decrease was effected in four weeks' time, with the time-out procedure being implemented on a mean of 2.5 times per day. The reader is referred to that article (Vol. 4, No. 8) for a full description of the procedure.

In the intervening six weeks, the procedure has been continually effective. From December 16 to January 27, there have been eight recorded incidents of clothes-tearing for a mean of .19 pieces of clothing torn per day. Of these eight incidents, six were consequated with the time-out procedure for an intervention mean of .14 times daily. These figures compare quite favorably with the above-cited figures from the previous month. In the six-week period, only one piece of clothing, a pair of pants, has been rendered unwearable. All of the other incidents involve Lora tearing a small strip off her clothing and tying it into a knot which she would then play with.

The mean duration of time-out is 96 seconds - a disappointing figure since we had been shooting for maintaining the previous 15-second mean. However, the mean is distorted by the fact that a naive staff member implemented the procedure once for seven minutes. Discounting that occurrence, the mean of implementation is 31.4 seconds - still above the goal, but more comfortably close.

The success depicted by the data is, I think, even more impressive in light of the additional progress made with regard to the amount and types of clothing Lora is required to wear. Since the last article, Lora has been consistently wearing a bra and her shackle boots have been replaced with similar boots without shackles. Next week, Lora is going shopping for some normal shoes as well as other new clothes. Lora's menstrual period was one day longer this month than last, yet again there is no record of inappropriate removal of her sanitary napkin.

The low mean rate of time-out implementation indicates to me that the procedure itself has become less integral to the maintenance of appropriate clothes-wearing than it was in the previous month. Lora's now attractive appearance has been eliciting an increasing amount of positive social interaction from cottage staff, an apparently effective reinforcer especially in light of the fact that, prior to the intervention, staff interaction with Lora was largely devoted to putting clothes on her which she didn't want to wear in the first place. Also, Lora has shown great progress in an independent toileting program, as well as having been enrolled in an additional skill-acquisition program and a physical therapy program.

EDITOR'S NOTE:

Rob Tallon, the second author of the following abstract is now a Cottage Supervisor at BRS&H. This paper will be presented at the Midwestern Association for Behavior Analysis convention in Chicago in May of this year.

INCREASING INSTITUTIONAL STAFF WORK BEHAVIOR WITH MILD NATURALISTIC AVERSIVE CONTROL: THE COFFEE BREAK

By Woolcock, J.E., Tallon, R.J., & Steele, D.A.

Traditionally, approaches to increasing the use of operant procedures by institutional staff have employed reinforcement procedures. The present study used an escape contingency, i.e. the ability to earn extra coffee breaks, to increase the use of operant techniques after positive reinforcement procedures had resulted in only minor improvements.

Twelve ward attendants on a ward for the severely and profoundly retarded in a state institution participated in the current study. The target behavior for the participants was the delivery of reinforcers contingent upon appropriate resident behavior. Concomitantly, the appropriate behavior emitted by the residents was measured. Four sessions of baseline were followed by a positive reinforcement procedure which included a behavior modification course, modeling, individual feedback, and social praise. Subsequently, a ten minute coffee break contingent upon the delivery of a specific number of reinforcers by the staff was introduced. For one session, a return to baseline conditions was implemented followed by a return to the coffee break contingency.

The results indicated that the positive reinforcement procedures increased work behavior of the staff slightly. However, the introduction of the coffee break escape contingencies substantially increased the delivery rate of reinforcers by both groups. During this phase appropriate resident behavior also showed a substantial increase.

Overall, the current study did not add any aversive stimuli to the work environment, but merely permitted more frequent "escape" from the work setting by placing extra coffee breaks contingent upon appropriate work behavior. It appears that at times desirable performance may best be obtained by implementing contingencies which enable individuals to escape a work situation.

EDITOR'S NOTE

On January 26, 1977, R. Don Horner from the University of Kansas visited Boulder River School and Hospital as a consultant for the Developmental Disabilities Division. He delivered a presentation at BRS&H to about fifty employees. Following are his major points.

COMPONENTS OF INSTRUCTIONAL PROGRAMS

1. Specify the behavioral domain. This component involves specifying the major skill area of greatest need, and considering that instruction should occur in a long range plan rather than as a series of isolated behaviors.
2. Precise definition of the target behavior
 - A. Define response in observable terms
 - B. Specify conditions under which it should be performed
 - C. Specify a criterion level of acceptable performance
3. Rationale for teaching the behaviors. Why does it need to be taught?
4. Prerequisites. What does the student need to know before instruction can begin on this behavior?
5. Environmental support. It is not effective to teach behaviors that are not supported by the environment. Why teach tricycle riding if there are none available in the student's living environment?
6. Instructional materials required. What materials do you need in order to carry out a training session?
7. Assessment form. Check the extent to which behaviors are present. Do not waste time teaching behaviors already mastered.
8. Baseline procedure. If you have an accelerating baseline you may not need to attend to the more elaborate parts of the program.
9. Task analysis. This is a detailed list of steps with small increments. Every time the topography changes (whenever the action verb changes) a new step is added.
10. Teaching procedure. Don uses the four step prompt sequence: no prompt, verbal, gestural, and physical.
11. Antecedent events. What conditions will maximize the probability of success, for instance the positioning of the trainer in relation to the student?
12. Consequent events. What consequences will you use? What kind of reinforcer?
13. Contingencies of consequences. Specify the schedule of reinforcement at various stages of the program. Don starts out with one to one, then one to two, one to three, then one to five and so on.
14. Definition of a training session. How long?
15. Definition of a training trial. When does it begin and end?
16. Define the measurement technique.
17. Recording forms.
18. Probe procedure. Use frequent probes.
19. Procedure for building in generalization. One trainer is not enough. One setting is not enough.
20. Data on previous uses of the program, if available.
21. Review of other programs to teach the same behavior, if available.

THE BIG SKY BEHAVIORIST
Appears

The Developmental Disabilities Division of Social and Rehabilitation Services has recently begun publication of a bi-monthly newsletter, The Big Sky Behaviorist. The audience is mainly D.D. service providers in the state, and its purpose is to increase

audience is mainly D.D. service providers in the state, and its purpose is to increase communication throughout the state between workers in the field. The editors are Mike Muszkiewicz and Richard Swenson. The Big Sky Behaviorist is free of charge. For further information contact the Editors, P.O. Box 4210, Helena, Montana 59601.

POSITIONS AVAILABLE

We are seeking applicants with training and demonstrated competencies in applied behavior analysis. Individuals interested in the following positions should contact the Director of the Habilitation Department, Boulder River School and Hospital, Boulder, Montana 59632.

Cottage Supervisor: Annual Salary - \$14,332. Responsible for the development and supervision of the total habilitative effort within a cottage. Cottages currently are assigned an average of twenty-seven severely and profoundly retarded individuals. Cottage Supervisors directly supervise two Habilitation Aide IV's (below). Each Cottage Supervisor also hires, schedules and evaluates all direct care staff within the cottage and coordinates the delivery of support area services. Opportunities exist to conduct applied research and to publish in the areas of training procedures for the severely retarded, staff training and motivation, deinstitutionalization and institutional reform. Requires a Master's Degree in Psychology or Special Education plus one year of experience or a Bachelor's Degree and three years of experience.

Habilitation Aide IV: Annual Salary - \$10,857.

Primarily responsible for assisting the Cottage Supervisor with training assessments, measuring resident training progress, monitoring program delivery and providing staff training in behavioral programs. Requires a Bachelor's Degree in Psychology or Special Education or graduation from high school plus four years of experience in a related field.

AAESPH ANNOUNCES 1977 CONFERENCE--OCTOBER 12-15, SAN FRANCISCO

The American Association for the Education of the Severely/Profoundly Handicapped will hold its Fourth Annual Conference on October 12-15, 1977 in San Francisco, California at the Jack Tar Hotel. Over one thousand people are expected to attend the four-day meeting which will bring together leaders in the field of educating and serving America's most neglected minority: severely and profoundly handicapped citizens. Teachers, parents, consumer advocates, social workers, lawyers, physicians and nurses, government personnel and psychologists, to name but a few, will gather for a lively exchange in technical assistance groups, research paper presentations, on-going project reports, debates, caucuses, and panel discussions.

AAESPH was founded in Kansas City, Missouri, in 1974 by thirty-three educators meeting at a seminar on the severely handicapped. They recognized the need for an organization exclusively dedicated to serving our nation's severely and profoundly handicapped population. Since then, the membership has risen dramatically to two thousand in all fifty states, the District of Columbia, Puerto Rico, and twelve foreign countries. Members are kept abreast of up-to-date developments in adaptive equipment, university training programs, new publications and films, and among many other things, job availability, through the monthly Newsletter. The quarterly, AAESPH Review, brings to readers reports on recent research and practical "how-to" articles of great help to teachers and parents.

For conference registrations forms and membership information, write or call:

AMERICAN ASSOCIATION FOR THE EDUCATION OF THE SEVERELY/PROFOUNDLY HANDICAPPED (AAESPH)
1600 West Armory Way
Seattle, Washington 98119

Telephone: (206) 283-5055

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